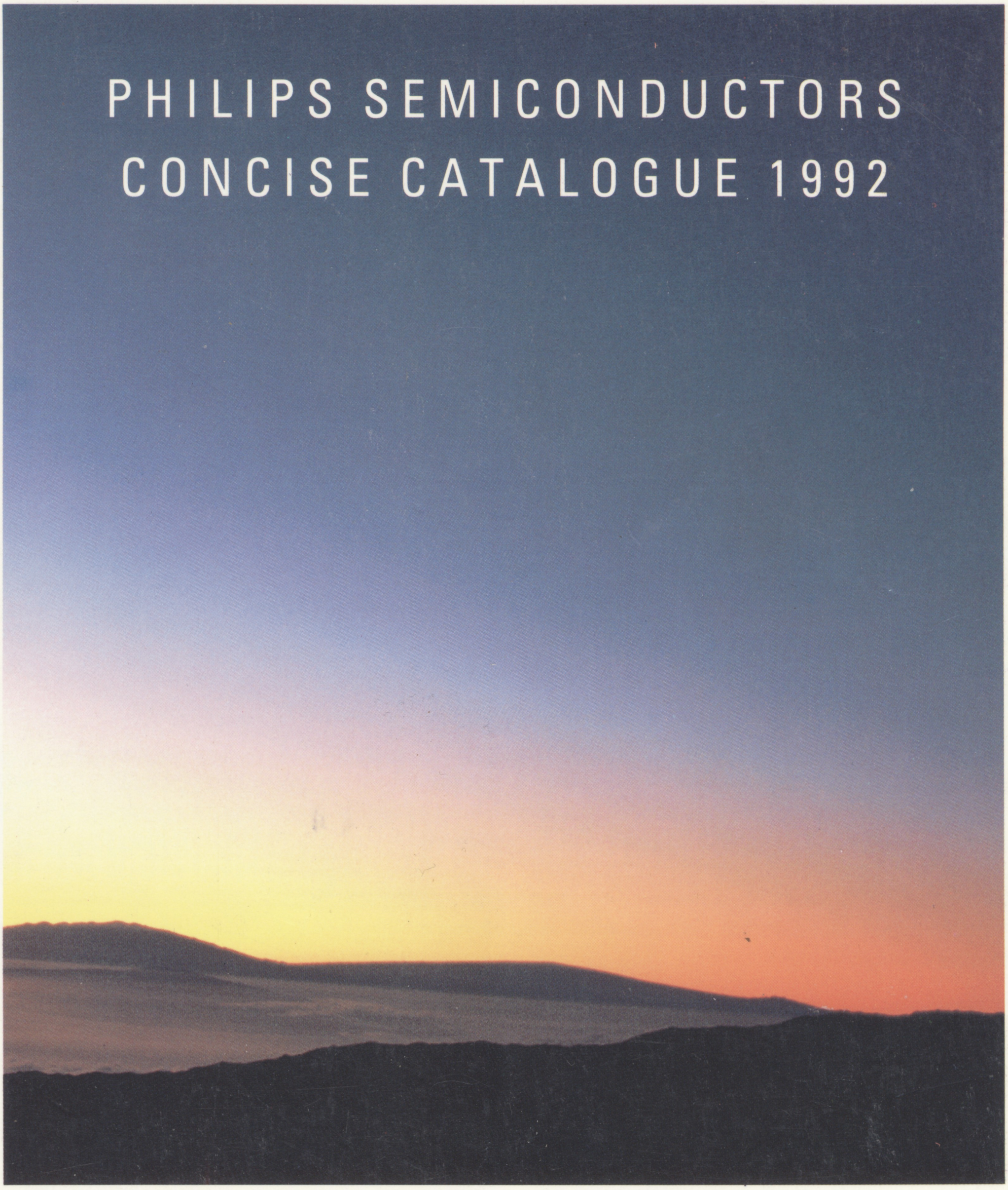

PHILIPS SEMICONDUCTORS
CONCISE CATALOGUE 1992

Philips Semiconductors

PHILIPS

PHILIPS SEMICONDUCTORS CONCISE CATALOGUE 1992

The standard type range

This Concise Catalogue will provide you with a compact, handy reference to the Philips standard range of integrated circuits and discrete semiconductors, offered for sale through our extensive and worldwide network of National Sales Organizations. We recommend that you consult with your local Philips sales organization for information regarding price and availability of these products.

The Philips Data Handbook System

For complete specifications of the components listed in this catalogue, please refer to the relevant volume of the Philips data handbook, which is indicated in the alphanumerical index of this catalogue. A complete list of the Philips integrated circuit and discrete semiconductor handbooks appears on page IV of this catalogue.

The Philips data handbook system comprises more than 65 books, classified into seven series:

Integrated Circuits
Discrete Semiconductors
Display Components
Passive Components
Professional Components
Magnetic Products
Liquid Crystal Displays

Data handbooks contain all pertinent data available at the time of publication and each is revised and reissued regularly. Loose data sheets are sent to subscribers to keep them up-to-date on additions and alterations made during the lifetime of a data handbook. Catalogues are available for selected product ranges (some catalogues are also available on floppy disks).

For more information about data handbooks, catalogues and subscriptions, contact your local Philips sales organization listed on the back cover of this catalogue. Product specialists are at your service and enquiries are answered promptly.

Integrated Circuits IC

Discrete Semiconductors SC

The CECC system

The objective of the CECC system is stated as:
"... to facilitate international trade by the publication of specifications and quality assessment procedures for electronic components and by the grant of an internationally recognized Mark, and/or Certificate, of Conformity. The components produced under this system are thereby acceptable by all member countries without further testing."

There are 15 member countries of CECC: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CECC specifications

Harmonization of specifications greatly reduces the variety of test methods and specifications of both manufacturers and users of electronic components. This harmonization takes place on:

- testing and sampling methods
- Blank Detail Specifications, which give the standard presentation and requirements for the detail specifications of a family of components
- Detail Specifications of specific components.

CECC approvals

Before components can be supplied with CECC approval, the factories producing these components must have CECC Manufacturer approval. For this type of approval the certification to ISO 9000 is used.

There are 2 types of product approvals:

- Qualification approval.
  This is the approval for one component of a specific type. Approval is granted after a series of fixed tests have been successfully completed and the results have been approved by the National Supervising Inspectorate.
- Capability approval.
  This is the approval for a group of components sharing a common technology. From this group a number of so-called 'Capability Qualifying Components', which are chosen as relevant for the technological domain, are tested as in the qualification approval.

Components with CECC approval are registered in the Qualified Products List: CECC 00200. Products are delivered in a sealed package, with the CECC mark of conformity. The sealed package may only be opened by an approved distributor.

Policy of Philips Semiconductors

A key element of our quality policy is the securing of CECC approval for all standard products and all production centres.
For us CECC's comprehensive system of Quality Assurance and result reporting is another aid in our quest for zero defects.
For our customers the benefits of CECC approval are:

- a guarantee of the quality of our components
- evidence of our highly developed QA system
- the knowledge that our products are ship-to-stock capable.

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Data handbook system

In the alphanumeric index in sections IC4 and SC4, reference is made to data sheets or data handbooks in which comprehensive information is included. These handbooks are part of the Philips Data System which is a comprehensive source of information on electronic components, subassemblies and materials.
For this catalogue, the following Integrated Circuit and Discrete Semiconductor Handbooks are of interest:

Integrated Circuit handbook series

code	handbook title
IC01	Radio, Audio and Associated Systems Bipolar, MOS
IC02a/b	Video and Associated Systems Bipolar, MOS
IC03a/b	ICs for Telecom Subscriber Sets, Cordless, Mobile and Cellular Telephones, Radio pagers
IC04	HE4000B Logic Family CMOS
IC05	Advanced Low-power Schottky (ALS) Logic Series
IC06	High-speed CMOS; 74HC/HCT/HCU Logic Family
IC07	Advanced CMOS Logic (ACL)
Supplement to IC07	Advanced CMOS Logic (ACL)
IC08	10/100K ECL Logic/Memory/PLD
IC09	TTL Logic Series
IC10	Memories MOS, TTL, ECL
IC11	Linear Products
IC12a/b	I^{2}C-bus compatible ICs
IC13	Programmable Logic Devices (PLD)
IC14	8048-based 8-bit Microcontrollers
IC15	FAST TTL Logic Series
Supplement to IC15	FAST TTL Logic Series
IC16	CMOS Integrated Circuits for Clocks and Watches
IC17	ICs for Telecom — ISDN
IC18	Microprocessors and Peripherals
IC19	Data Communication Products
IC20	8051-based 8-bit Microcontrollers
IC23	ABT MULTIBYTE™ Advanced BiCMOS Bus Interface Logic

Discrete Semiconductor handbook series

code	handbook title
SC01	Diodes
SC02	Power Diodes
SC03	Thyristors and Triacs
SC04	Small Signal Transistors
SC05	Low-frequency Power Transistors and Hybrid IC Power Modules
SC06	High-voltage and Switching Power Transistors
SC07	Small-signal Field-effect Transistors
SC08a	RF Power Bipolar Transistors
SC08b	RF Power MOS Transistors
SC09	RF Power Modules
SC10	Surface Mounted Semiconductors
SC12	Optocouplers
SC13	PowerMOS Transistors
SC14	Wideband Transistors and Wideband Hybrid IC Modules
SC15	Microwave Transistors
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INTEGRATED CIRCUITS

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package		tube	bip tube **	reel 7"	reel 13"	reel 360 mm	hard tray	JEDEC tray
DIL8		50/2000	–	–	–	–	–	–
DIL14		25/1000	28/1120	–	–	–	–	–
DIL16		22/880	25/1000	–	–	–	–	–
DIL16	***	25/1000	28/1120	–	–	–	–	–
DIL16P		–	25/1000	–	–	–	–	–
DIL18		20/800	23/920	–	–	–	–	–
DIL18	***	22/880	25/1000	–	–	–	–	–
DIL20		18/720	20/800	–	–	–	–	–
DIL22		17/544	21/672	–	–	–	–	–
DIL22SKI		18/720	–	–	–	–	–	–
DIL24		15/360	17/510	–	–	–	–	–
DIL24SKI		15/600	17/680	–	–	–	–	–
DIL24SHR		–	25/1000	–	–	–	–	–
DIL28		13/312	15/450	–	–	–	–	–
DIL32		11/264	13/390	–	–	–	–	–
DIL32SHR		–	19/760	–	–	–	–	–
DIL40		9/216	10/300	–	–	–	–	–
DIL42SHR		12/288	14/420	–	–	–	–	–
DIL48		7/168	–	–	–	–	–	–
DIL48SHR		10/240	11/330	–	–	–	–	–
DIL52SHR		10/240	11/330	–	–	–	–	–
CERDIP8		48/1920	–	–	–	–	–	–
CERDIP14		25/1000	–	–	–	–	–	–
CERDIP16		25/1000	–	–	–	–	–	–
CERDIP18		21/840	–	–	–	–	–	–
CERDIP20		20/800	–	–	–	–	–	–
CERDIP24		15/360	–	–	–	–	–	–
CERDIP28		13/312	–	–	–	–	–	–
CERDIP40		9/216	–	–	–	–	–	–
SIL9MPF		–	25/950	–	–	–	–	–
SIL9P		–	23/552	–	–	–	–	–
SIL9MP		–	25/950	–	–	–	–	–
SIL13P		–	23/552	–	–	–	–	–
QUIL16		–	50/1000	–	–	–	–	–
QUIL18		–	50/1000	–	–	–	–	–
RBS9P		–	23/552	–	–	–	–	–
DBS9MPF		–	25/950	–	–	–	–	–
DBS9P		–	23/552	–	–	–	–	–
DBS13P		–	23/552	–	–	–	–	–
DBS17P		–	23/552	–	–	–	–	–
SO8	*	100/2000	–	1000/1000	2500/2500	–	–	–
SO8L	*	64/2560	–	700/700	1000/1000	–	–	–
SO14	*	57/1140	–	1000/1000	2500/2500	–	–	–
SO16	*	50/1000	–	1000/1000	2500/2500	–	–	–
SO16L	*	47/1880	–	500/500	1000/1000	–	–	–
SO20L	*	38/1520	–	500/500	1000/1000	–	–	–

INTEGRATED CIRCUITS

Packing quantities

package		tube	bip tube **	reel 7"	reel 13"	reel 360 mm	hard tray	JEDEC tray
SO24L	*	31/1240	–	500/500	1000/1000	–	–	–
SO28L	*	27/1080	–	500/500	1000/1000	–	–	–
SO28XL	*	27/756	–	350/350	1000/1000	–	–	–
SO32L	*	24/960	–	500/500	1000/1000	–	–	–
SSOP20	*	75/6750	–	1000/1000	2500/2500	–	–	–
VSO40	*	31/1240	–	300/300	1000/1000	–	–	–
VSO56	*	22/616	–	–	–	1000/1000	–	–
QFP44S10	*	–	–	–	–	–	720/720	–
QFP44S14	*	–	–	–	–	–	720/720	–
QFP48S10	*	–	–	–	–	–	720/720	–
QFP64REC	*	–	–	–	–	–	640/640	–
QFP80REC	*	–	–	–	–	–	640/640	–
QFP100REC	*	–	–	–	–	–	640/640	–
QFP120	*	–	–	–	–	–	300/300	120/120
QFP128SL	*	–	–	–	–	–	300/300	120/120
QFP160	*	–	–	–	–	–	300/300	120/120
PLCC20	*	46/3680	–	–	1000/1000	–	–	–
PLCC28	*	37/2368	–	300/300	750/750	–	–	–
PLCC32	*	31/2232	–	–	750/750	–	–	–
PLCC44	*	26/1248	–	–	–	500/500	–	–
PLCC52	*	23/1012	–	–	500/500	–	–	–
PLCC68	*	18/648	–	–	–	250/250	–	–
PLCC84	*	15/420	–	–	–	250/250	–	–

Package abbreviations *

Plastic packages

DBS	DIL Bent SIL
DIL	Dual In-Line
PLCC*	Plastic Leaded Chip Carrier
PMPF	Plastic Micro Flat-Pack
QFP*	Quad Flat-Pack
QUIL	QUadruple In-Line
RBS	Rectangular Bent SIL
SIL	Single In-Line
SO*	Small Outline
SOJ*	SO with J-bent leads
SSOP*	Shrink Small Outline Package
TAB*	Tape Automated Bonding
VSO*	Very Small Outline

Ceramic glass sealed packages

CERDIP	CERamic Dual In-line Package
QCERPA*	Quad CERamic (flat) PAck

Ceramic packages with a metal lid

CERDIL	CERamic Dual In-Line
CPGA	Ceramic Pin-Grid Array
LCCC*	Leadless Ceramic Chip Carrier

Metal can packages

CIRCLE	leads on a pin CIRCLE

Package suffix

FD	Face Down
L	Large
MP	Medium Power
MPF	Medium Power + cooling Fin
P	Power
REC	RECtangular
SHR	SHRink
SKI	SKInny
SL	Short Lead
SLL	SLim Line
S10	Square 10 (10 × 10 mm)
S14	Square 14 (14 × 14 mm)
XL	eXtra Large

Smallest Packing Quantity (SPQ)

For highest quality assurance, it is recommended to order multiples of the SPQs preferably up to the packing quantity (PQ) i.e. full boxes listed in the table above.
For circuit evaluation, single samples can be ordered.

Notes:

* SMD package for surface mounting

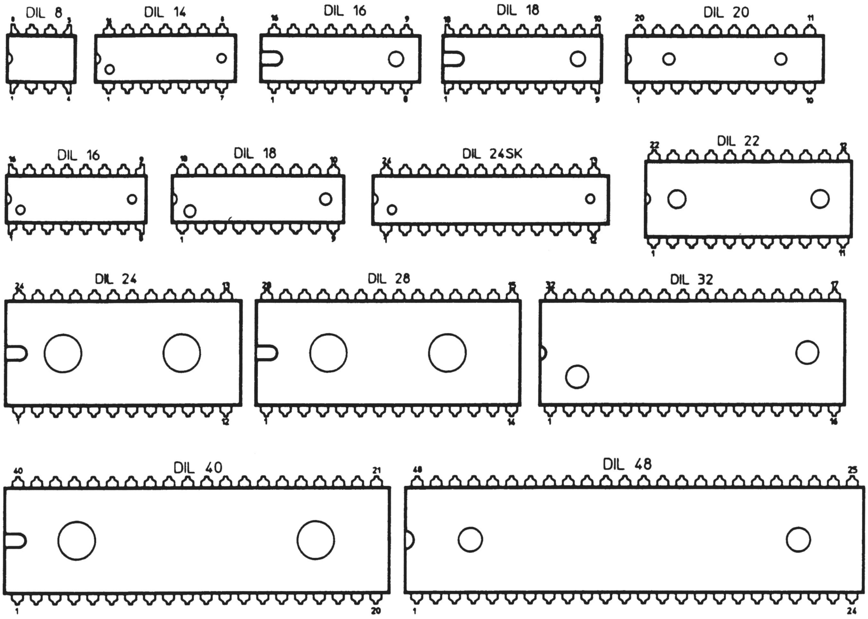
** tubes for bipolar Radio/Audio and Video circuits

*** DIL16/DIL18 with short body

reels: Signetics supports 13" reels only; Philips supports 7" and 13" reels

Package outlines

Dual In-Line (DIL) packages (actual size)

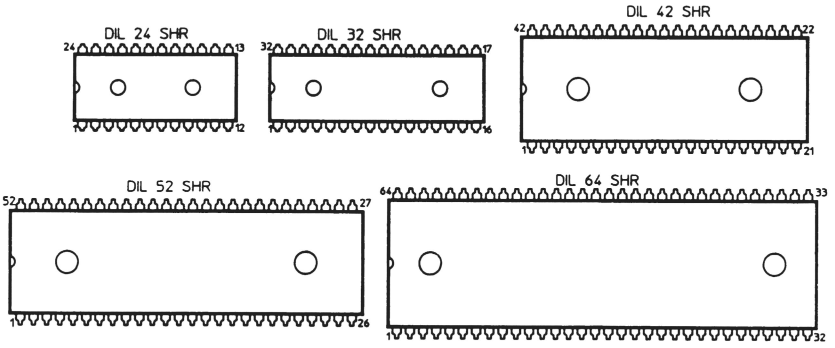

DIL 8
DIL 14
DIL 16
DIL 18
DIL 20
DIL 16
DIL 18
DIL 24SK
DIL 22
DIL 24
DIL 28
DIL 32
DIL 40
DIL 48

Package dimensions

package	body size (L × W) mm (max)	pitch mm	package	body size (L × W) mm (max)	pitch mm
DIL8	9.8 × 6.48	2.54	DIL24SK	31.9 × 6.73	2.54
DIL14	19.5 × 6.48	2.54	DIL22	27.94 × 8.89	2.54
DIL16	22.0 × 6.48	2.54	DIL24	32.0 × 14.1	2.54
DIL18	22.0 × 6.48	2.54	DIL28	36.0 × 14.1	2.54
DIL20	26.6 × 6.35	2.54	DIL32	41.6 × 14.2	2.54
DIL16	19.5 × 6.48	2.54	DIL40	52.5 × 14.1	2.54
DIL18	24.5 × 6.48	2.54	DIL48	61.65 × 14.03	2.54

Package outlines

Shrink Dual In-Line (DIL) packages (actaul size)


DIL 24 SHR
24
13
1
12
DIL 32 SHR
32
17
1
16
DIL 42 SHR
42
22
1
21
DIL 52 SHR
52
27
1
26
DIL 64 SHR
64
33
1
32

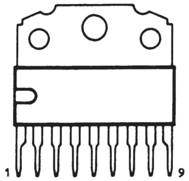
Package dimensions

package	body size (L × W) mm (max)	pitch mm
DIL24SHR	22.3 × 9.1	1.778
DIL32SHR	29.4 × 9.1	1.778
DIL42SHR	39.0 × 14.1	1.778
DIL48SHR	47.92 × 14.1	1.778
DIL52SHR	47.92 × 14.1	1.778
DIL64SHR	61.72 × 17.6	1.778

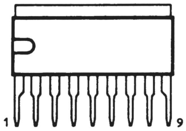
Package outlines

Single In-Line (SIL) packages (actual size)

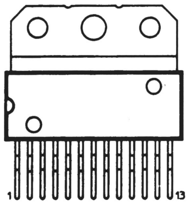
SIL9MPF



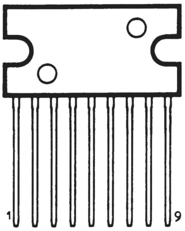
SIL9MP



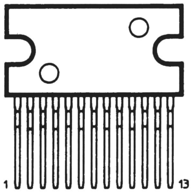
DBS13MP



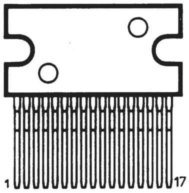
SIL9P, DBS9P



SIL13P, DBS13P



DBS17P

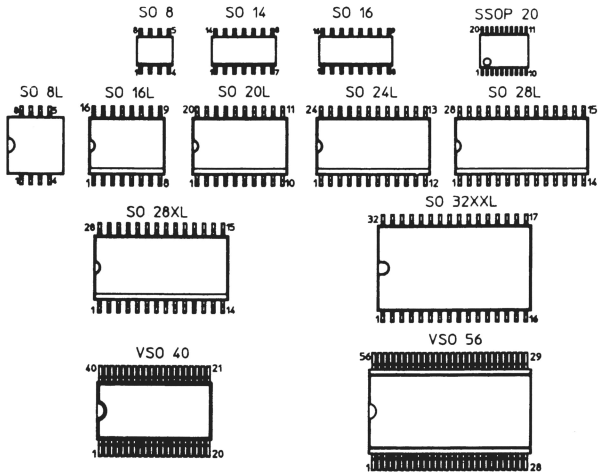


Package dimensions

package	body size (L × W) mm (max)	pitch mm
SIL9MPF	22.0 × 6.48	2.54
SIL9MP	22.0 × 6.48	2.54
DBS13MP	24.4 × 9.4	1.7
SIL9P, DBS9P	24.4 × 12.4	2.54
SIL13P, DBS13P	24.4 × 12.4	1.7
DBS17P	24.4 × 12.4	1.27

Package outlines

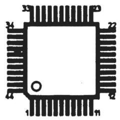
Small Outline (SO) packges (actual size)

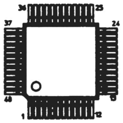

SO 8
SO 14
SO 16
SSOP 20
SO 8L
SO 16L
SO 20L
SO 24L
SO 28L
SO 28XL
SO 32XXL
VSO 40
VSO 56
16
9
1
8
20
11
1
10
24
13
1
12
28
15
1
14
32
17
1
16
40
21
1
20
56
29
1
28

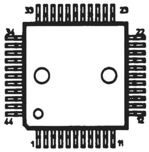
Package dimensions

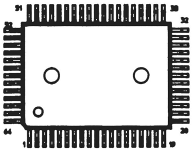
package	body size (L × W) mm (max)	pitch mm	package	body size (L × W) mm (max)	pitch mm
SO8	5.0 × 4.0	1.27	SO24L	15.6 × 7.6	1.27
SO14	8.75 × 4.0	1.27	SO28L	18.1 × 7.6	1.27
SO16	10.0 × 4.0	1.27	SO28XL	18.2 × 8.5	1.27
SSOP20	6.75 × 4.5	0.65	SO32XXL	20.7 × 11.3	1.27
SO8L	8.0 × 7.6	1.27	VSO40	16.0 × 7.6	0.762
SO16L	10.5 × 7.6	1.27	VSO56	22.0 × 11.1	0.75
SO20L	13.0 × 7.6	1.27			

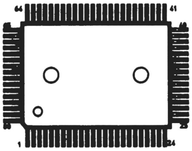
Quad Flat-Pack (QFP) packages (actual size)

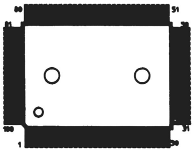

QFP 44 S10

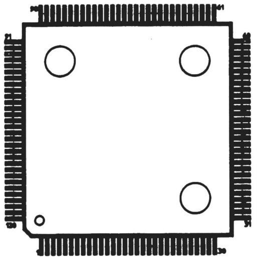

QFP 48 S10

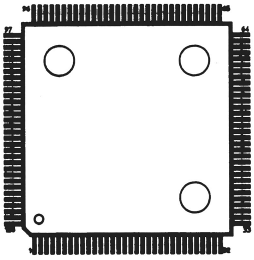

QFP 44 S14

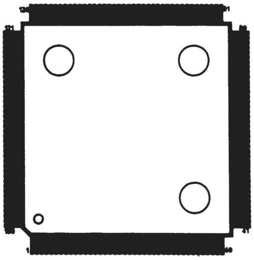

QFP 64 REC


QFP 80 REC


QFP 100 REC


QFP 120


QFP 128

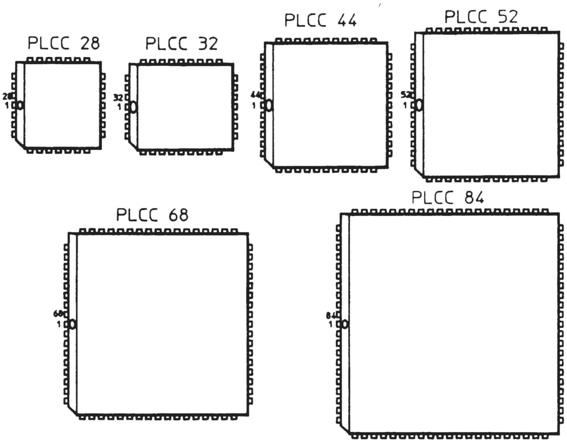

QFP 160

IC

Package dimensions

package	body size (L × W) mm (max)	pitch mm	package	body size (L × W) mm (max)	pitch mm
QFP44S10	10.1 × 10.1	0.8	QFP100REC	20.1 × 14.1	0.65
QFP48S10	10.1 × 10.1	0.75	QFP120	28.1 × 28.1	0.8
QFP44S14	14.1 × 14.1	1	QFP128	28.1 × 28.1	0.8
QFP64REC	20.1 × 14.1	1	QFP160	28.1 × 28.1	0.65
QFP80REC	20.1 × 14.1	0.8			

Plastic Leaded Chip Carrier (PLCC) packages (actual size)


PLCC 28
28
1
PLCC 32
32
1
PLCC 44
44
1
PLCC 52
52
1
PLCC 68
68
1
PLCC 84
84
1

Package dimensions

package	body size (L × W) mm (max)	pitch mm
PLCC28	11.58 × 11.58	1.27
PLCC32	11.5 × 13.97	1.27
PLCC44	16.66 × 16.66	1.27
PLCC52	19.1 × 19.1	1.27
PLCC68	24.33 × 24.33	1.27
PLCC84	29,41 × 29.41	1.27

INTEGRATED CIRCUITS

Alphanumeric index

type		package			page
number	description	through-hole	SMD	handbook	IC5.
ADC0803-1C	8-bit CMOS ADC		SO20L	IC11	62
ADC0803-1LC	8-bit CMOS ADC	DIL20	SO20L	IC11	62
ADC0804-1C	8-bit CMOS ADC	DIL20	SO20L	IC11	62
ADC0804-1LC	8-bit CMOS ADC	DIL20	SO20L	IC11	62
ADC0820BNE	8-bit high-speed CMOS ADC	DIL20	SO20L	IC11	62
ADC0820BSA	8-bit high-speed CMOS ADC	DIL20	SO20L	IC11	62
ADC0820BSE	8-bit high-speed CMOS ADC	CERDIP20		IC11	62
ADC0820CNE	8-bit high-speed CMOS ADC	DIL20	SO20L	IC11	62
ADC0820CSA	8-bit high-speed CMOS ADC	DIL20	SO20L	IC11	62
ADC0820CSE	8-bit high-speed CMOS ADC	CERDIP20		IC11	62
AM26LS31C	quad high-speed differential line driver	DIL16	SO16	IC11	69
AM26LS31I	quad high-speed differential line driver	DIL16	SO16	IC11	69
AM26LS31M	quad high-speed differential line driver	DIL16, CERDIP16		IC11	69
AM26LS32C	quad high-speed diff. line receiver	DIL16	SO16	IC11	69
AM26LS32I	quad high-speed diff. line receiver	DIL16	SO16	IC11	69
AM26LS32M	quad high-speed diff. line receiver	DIL16, CERDIP16		IC11	69
AM26LS33C	quad high-speed diff. line receiver	DIL16	SO16	IC11	69
AM26LS33I	quad high-speed diff. line receiver	DIL16	SO16	IC11	69
AM26LS33M	quad high-speed diff. line receiver	DIL16, CERDIP16		IC11	69
AM6012	12-bit multiplying DAC	CERDIP20	SO20L	IC11	62
AU2901	quad voltage comparator	DIL14	SO14	IC11	62
AU2902	quad low-power operational amplifier	DIL14	SO14	IC11	60
AU2903	low-power dual voltage comparator	DIL8	SO8	IC11	63
AU2904	dual low-power operational amplifier	DIL8	SO8	IC11	60
CA3089	FM IF system	DIL16		IC11	75
DAC08	8-bit high-speed multiplying DAC	CERDIP16		IC11	62
DAC08A	8-bit high-speed multiplying DAC	CERDIP16		IC11	62
DAC08C	8-bit high-speed multiplying DAC	DIL16, CERDIP16		IC11	62
DAC08E	8-bit high-speed multiplying DAC	DIL16, CERDIP16	SO16	IC11	62
DAC08H	8-bit high-speed multiplying DAC	DIL16		IC11	62
HEC4001BDB	quadruple 2-input NOR gate	CERDIP14		IC04	6
HEC4002BDB	dual 4-input NOR gate	CERDIP14		IC04	6
HEC4007UBDB	dual complementary pair and inverter	CERDIP14		IC04	5
HEC40097BDB	3-state hex non-inverting buffer	CERDIP16		IC04	5
HEC40098BDB	3-state hex inverting buffer	CERDIP16		IC04	5
HEC4011BDB	quadruple 2-input NAND gate	CERDIP14		IC04	6
HEC4012BDB	dual 4-input NAND gate	CERDIP14		IC04	6
HEC4013BDB	dual D-type flip-flop	CERDIP14		IC04	6
HEC4014BDB	8-bit static shift register	CERDIP16		IC04	7
HEC4015BDB	dual 4-bit static shift register	CERDIP16		IC04	7
HEC4016BDB	quadruple bilateral switches	CERDIP14		IC04	8
HEC4017BDB	5-stage Johnson counter	CERDIP16		IC04	5
HEC40174BDB	hex D-type flip-flop	CERDIP16		IC04	6
HEC40175BDB	quadruple D-type flip-flop	CERDIP16		IC04	6
HEC4019BDB	quadruple 2-input multiplexer	CERDIP16		IC04	7
HEC40194BDB	4-bit bidir. universal shift register	CERDIP16		IC04	7
HEC40195BDB	4-bit universal shift register	CERDIP16		IC04	7
HEC4020BDB	14-stage binary counter	CERDIP16		IC04	5
HEC4023BDB	triple 3-input NAND gate	CERDIP14		IC04	6
HEC4024BDB	7-stage binary counter	CERDIP14		IC04	5
HEC4025BDB	triple 3-input NOR gate	CERDIP14		IC04	6
HEC4027BDB	dual JK flip-flop	CERDIP16		IC04	6
HEC4030BDB	quadruple EXCLUSIVE-OR gate	CERDIP14		IC04	6
HEC4035BDB	4-bit universal shift register	CERDIP16		IC04	7
HEC4040BDB	12-stage binary counter	CERDIP16		IC04	5
HEC4042BDB	quadruple D-latch	CERDIP16		IC04	7

INTEGRATED CIRCUITS

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type number	description	package		handbook	page IC5.
		through-hole	SMD		
HEC4047BDB	monostable/astable multivibrator	CERDIP14		IC04	7
HEC4049BDB	hex inverting buffers	CERDIP16		IC04	5
HEC4050BDB	hex non-inverting buffers	CERDIP16		IC04	5
HEC4051BDB	8-channel analog mux/demux	CERDIP16		IC04	7
HEC4066BDB	quadruple bilateral switches	CERDIP14		IC04	8
HEC4068BDB	8-input NAND gate	CERDIP14		IC04	6
HEC4069UBDB	hex inverter	CERDIP14		IC04	6
HEC4070BDB	quadruple EXCLUSIVE-OR gate	CERDIP14		IC04	6
HEC4071BDB	quadruple 2-input OR gate	CERDIP14		IC04	6
HEC4073BDB	triple 3-input AND gate	CERDIP14		IC04	6
HEC4081BDB	quadruple 2-input AND gate	CERDIP14		IC04	6
HEC4093BDB	quad 2-input NAND Schmitt trigger	CERDIP14		IC04	7
HEC4094BDB	8-stage shift-and-store bus register	CERDIP16		IC04	7
HEC4505BDB	64-bit, 1-bit per word static R/W RAM	CERDIP14		IC04	7
HEC4510BDB	BCD up/down counter	CERDIP16		IC04	5
HEC4511BDB	BCD to 7-segm. latch/decoder/driver	CERDIP16		IC04	5, 6
HEC4512BDB	8-input mux with 3-state output	CERDIP16		IC04	7
HEC4519BDB	quadruple 2-input multiplexer	CERDIP16		IC04	7
HEC4520BDB	dual binary counter	CERDIP16		IC04	5
HEC4528BDB	dual monostable multivibrator	CERDIP16		IC04	7
HEC4539BDB	dual 4-input multiplexer	CERDIP16		IC04	7
HEC4541BDB	programmable timer	CERDIP14		IC04	8
HEC4556BDB	dual 1-of-4 decoder/demultiplexer	CERDIP16		IC04	5
HEC4557BDB	1-to-64 bit var. length shift reg.	CERDIP16		IC04	7
HEC4585BDB	4-bit magnitude comparator	CERDIP16		IC04	5
HEC4750VD	frequency synthesizer	CERDIP28		IC04	7
HEC4750VDB	frequency synthesizer	CERDIP28		IC04	7
HEC4751VDB	universal divider	CERDIP28		IC04	5
HEF4000B	dual 3-input NOR gate and inverter	DIL14	SO14	IC04	6
HEF4001B	quadruple 2-input NOR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4001UB	quad 2-input NOR gate; unbuffered	DIL14, CERDIP14	SO14	IC04	6
HEF4002B	dual 4-input NOR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4006B	18-stage static shift register	DIL14, CERDIP14	SO14	IC04	7
HEF4007UB	dual complementary pair and inverter	DIL14, CERDIP14	SO14	IC04	5
HEF4008B	4-bit binary full adder	DIL16, CERDIP16	SO16	IC04	5
HEF40097B	3-state hex non-inverting buffer	DIL16, CERDIP16	SO16	IC04	5
HEF40098B	3-state hex inverting buffer	DIL16, CERDIP16	SO16	IC04	5
HEF40106B	hex inverting Schmitt trigger	DIL14, CERDIP14	SO14	IC04	7
HEF4011B	quadruple 2-input NAND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4011UB	quadruple 2-input NAND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4012B	dual 4-input NAND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4013B	dual D-type flip-flop	DIL14, CERDIP14	SO14	IC04	6
HEF4014B	8-bit static shift register	DIL16, CERDIP16	SO16	IC04	7
HEF4015B	dual 4-bit static shift register	DIL16, CERDIP16	SO16	IC04	7
HEF4016B	quadruple bilateral switches	DIL14, CERDIP14	SO14	IC04	8
HEF40160B	4-bit synchronous decade counter	DIL16, CERDIP16	SO16	IC04	5
HEF40161B	4-bit synchronous binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF40162B	4-bit synchronous decade counter	DIL16, CERDIP16	SO16	IC04	5
HEF40163B	4-bit synchronous binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF4017B	5-stage Johnson counter	DIL16, CERDIP16	SO16	IC04	5
HEF40174B	hex D-type flip-flop	DIL16, CERDIP16	SO16	IC04	6
HEF40175B	quadruple D-type flip-flop	DIL16, CERDIP16	SO16	IC04	6
HEF4018B	presettable divide-by-n counter	DIL16, CERDIP16	SO16	IC04	5
HEF4019B	quadruple 2-input multiplexer	DIL16, CERDIP16	SO16	IC04	7
HEF40192B	4-bit up/down decade counter	DIL16, CERDIP16	SO16	IC04	5
HEF40193B	4-bit up/down binary counter	DIL16, CERDIP16	SO16	IC04	5

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HEF40194B	4-bit bidir. universal shift register	DIL16, CERDIP16	SO16	IC04	7
HEF40195B	4-bit universal shift register	DIL16, CERDIP16	SO16	IC04	7
HEF4020B	14-stage binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF4021B	8-bit static shift register	DIL16, CERDIP16	SO16	IC04	7
HEF4022B	4-stage divide-by-8 Johnson counter	DIL16, CERDIP16	SO16	IC04	5
HEF4023B	triple 3-input NAND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4024B	7-stage binary counter	DIL14, CERDIP14	SO14	IC04	5
HEF40240B	octuple buffers with 3-state outputs	DIL20, CERDIP20	SO20L	IC04	5
HEF40244B	octal buffers with 3-state outputs	DIL20, CERDIP20	SO20L	IC04	5
HEF40245B	octuple bus transceiver; 3-state	DIL20, CERDIP20	SO20L	IC04	8
HEF4025B	triple 3-input NOR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4027B	dual JK flip-flop	DIL16, CERDIP16	SO16	IC04	6
HEF4028B	1-of-10 decoder	DIL16, CERDIP16	SO16	IC04	5
HEF4029B	synchronous up/down counter	DIL16, CERDIP16	SO16	IC04	5
HEF4030B	quadruple EXCLUSIVE-OR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4031B	64-stage static shift register	DIL16, CERDIP16	SO16	IC04	7
HEF4035B	4-bit universal shift register	DIL16, CERDIP16	SO16	IC04	7
HEF40373B	octal transp. latch with 3-state	DIL20, CERDIP20	SO20L	IC04	7
HEF40374B	octal D-type flip-flop	DIL20, CERDIP20	SO20L	IC04	6
HEF4040B	12-stage binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF4041B	quadruple true/complement buffer	DIL14, CERDIP14	SO14	IC04	5
HEF4042B	quadruple D-latch	DIL16, CERDIP16	SO16	IC04	7
HEF4043B	quad R/S latch with 3-state outputs	DIL16, CERDIP16	SO16	IC04	7
HEF4044B	quad R/S latch with 3-state outputs	DIL16, CERDIP16	SO16	IC04	7
HEF4046B	phase-locked loop	DIL16, CERDIP16	SO16	IC04	7
HEF4047B	monostable/astable multivibrator	DIL14, CERDIP14	SO14	IC04	7
HEF4049B	hex inverting buffers	DIL16, CERDIP16	SO16	IC04	5
HEF4050B	hex non-inverting buffers	DIL16, CERDIP16	SO16	IC04	5
HEF4051B	8-channel analog mux/demux	DIL16, CERDIP16	SO16	IC04	7
HEF4052B	dual 4-channel analog mux/demux	DIL16, CERDIP16	SO16	IC04	7
HEF4053B	triple 2-channel analog mux/demux	DIL16, CERDIP16	SO16	IC04	7
HEF4059B	programmable divide-by-n counter	DIL24, CERDIP24	SO24L	IC04	5
HEF4060B	14-stage ripple-carry binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF4066B	quadruple bilateral switches	DIL14, CERDIP14	SO14	IC04	8
HEF4067B	16-channel analog mux/demux	DIL24, CERDIP24	SO24L	IC04	7
HEF4068B	8-input NAND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4069UB	hex inverter	DIL14, CERDIP14	SO14	IC04	6
HEF4070B	quadruple EXCLUSIVE-OR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4071B	quadruple 2-input OR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4072B	dual 4-input OR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4073B	triple 3-input AND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4075B	triple 3-input OR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4076B	quad D-type register, 3-state	DIL16, CERDIP16	SO16	IC04	7
HEF4077B	quadruple EXCLUSIVE-NOR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4078B	8-input NOR gate	DIL14, CERDIP14	SO14	IC04	6
HEF4081B	quadruple 2-input AND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4082B	dual 4-input AND gate	DIL14, CERDIP14	SO14	IC04	6
HEF4085B	dual 2-wide 2-inp. AND-OR-inv. gate	DIL14, CERDIP14	SO14	IC04	6
HEF4086B	4-wide 2-input AND-OR-invert gate	DIL14, CERDIP14	SO14	IC04	6
HEF4093B	quad 2-input NAND Schmitt trigger	DIL14, CERDIP14	SO14	IC04	7
HEF4094B	8-stage shift-and-store bus register	DIL16, CERDIP16	SO16	IC04	7
HEF4104B	quad low-to-high voltage translator	DIL16, CERDIP16	SO16	IC04	7
HEF4502B	strobed hex inverter/buffer	DIL16, CERDIP16	SO16	IC04	5
HEF4505B	64-bit, 1-bit per word static R/W RAM	DIL14, CERDIP14		IC04	7
HEF4508B	dual 4-bit latch	DIL24, CERDIP24	SO24L	IC04	7
HEF4510B	BCD up/down counter	DIL16, CERDIP16	SO16	IC04	5

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		through-hole	SMD		
HEF4511B	BCD to 7-segm. latch/decoder/driver	DIL16, CERDIP16	SO16	IC04	5, 6, 7
HEF4512B	8-input mux with 3-state output	DIL16, CERDIP16	SO16	IC04	7
HEF4514B	1-of-16 decoder/demultiplexer	DIL24, CERDIP24	SO24L	IC04	5
HEF4515B	1-of-16 decoder/demultiplexer	DIL24, CERDIP24	SO24L	IC04	5
HEF4516B	binary up/down counter	DIL16, CERDIP16	SO16	IC04	5
HEF4517B	dual 64-bit static shift register	DIL16, CERDIP16	SO16L	IC04	7
HEF4518B	dual BCD counter	DIL16, CERDIP16	SO16	IC04	5
HEF4519B	quadruple 2-input multiplexer	DIL16, CERDIP16	SO16	IC04	7
HEF4520B	dual binary counter	DIL16, CERDIP16	SO16	IC04	5
HEF4521B	24-stage frequency divider	DIL16, CERDIP16	SO16	IC04	5
HEF4522B	programmable 4-bit BCD down counter	DIL16, CERDIP16	SO16	IC04	5
HEF4526B	prog. 4-bit binary down counter	DIL16, CERDIP16	SO16	IC04	5
HEF4527B	BCD rate multiplier	DIL16, CERDIP16	SO16	IC04	7
HEF4528B	dual monostable multivibrator	DIL16, CERDIP16	SO16	IC04	7
HEF4531B	13-input parity checker/generator	DIL16, CERDIP16	SO16	IC04	5
HEF4532B	8-input priority encoder	DIL16, CERDIP16	SO16	IC04	6
HEF4534B	real time 5-decade counter	DIL24, CERDIP24	SO24L	IC04	5
HEF4538B	dual precision monostable multivib.	DIL16, CERDIP16	SO16	IC04	7
HEF4539B	dual 4-input multiplexer	DIL16, CERDIP16	SO16	IC04	7
HEF4541B	programmable timer	DIL14, CERDIP14	SO14	IC04	8
HEF4543B	BCD to 7-segm. latch/decoder/driver	DIL16, CERDIP16	SO16	IC04	5, 6, 7
HEF4555B	dual 1-of-4 decoder/demultiplexer	DIL16, CERDIP16	SO16	IC04	5
HEF4556B	dual 1-of-4 decoder/demultiplexer	DIL16, CERDIP16	SO16	IC04	5
HEF4557B	1-to-64 bit var. length shift reg.	DIL16, CERDIP16	SO16	IC04	7
HEF4585B	4-bit magnitude comparator	DIL16, CERDIP16	SO16	IC04	5
HEF4720B	256-bit, 1-bit per word RAM	DIL16, CERDIP16	SO16L	IC04	7
HEF4720V	256-bit, 1-bit per word RAM	DIL16, CERDIP16	SO16L	IC04	7
HEF4724B	8-bit addressable latch	DIL16, CERDIP16	SO16	IC04	7
HEF4731B	quad 64-bit static shift register	DIL14, CERDIP14		IC04	7
HEF4731V	quad 64-bit static shift register	DIL14, CERDIP14		IC04	7
HEF4737B	quadruple static decade counter	DIL18, CERDIP18		IC04	5
HEF4737V	quadruple static decade counter	DIL18, CERDIP18		IC04	5
HEF4738V	IEC/IEEE bus interface	DIL40		IC04	7
HEF4750V	frequency synthesizer	CERDIP28		IC04	7
HEF4751V	universal divider	DIL28, CERDIP28	SO28L	IC04	5
HEF4752V	AC motor control circuit	DIL28, CERDIP28		IC04	7
HEF4753B	universal timer module	DIL18, CERDIP18		IC04	8
HEF4753V	universal timer module	DIL18, CERDIP18		IC04	8
HEF4754V	18-element bar graph LCD driver	DIL28, CERDIP28	SO28L	IC04	8
HEF4755V	transceiver for serial data comm.	DIL28, CERDIP28	SO28L	IC04	8
HEF7069UB	hex inverter; open drain	DIL14	SO14	-	6
ICM7555C	general purpose CMOS timer	DIL8	SO8	IC11	63
ICM7555I	general purpose CMOS timer	DIL8	SO8	IC11	63
LF198	sample-and-hold amplifier	CERDIP8, CIRCLE8		IC11	61
LF298	sample-and-hold amplifier	CERDIP8, CIRCLE8		IC11	61
LF398	sample-and-hold amplifier		SO14	IC11	61
LF398	sample-and-hold amplifier	CERDIP8, CIRCLE8		IC11	61
LF398	sample-and-hold amplifier	DIL8		IC11	61
LM111	voltage comparator	CERDIP8		IC11	62
LM124	quad low-power operational amplifier	DIL14, CERDIP14		IC11	60
LM139	quad voltage comparator	CERDIP14		IC11	62
LM193	low-power dual voltage comparator	CERDIP8		IC11	62
LM211	voltage comparator	DIL8	SO8	IC11	62
LM219	dual voltage comparator	CERDIP14		IC11	62
LM224	quad low-power operational amplifier	DIL14, CERDIP14		IC11	60
LM239A	quad voltage comparator	DIL14		IC11	62

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LM239	quad voltage comparator	DIL14	SO14	IC11	62
LM258	dual low-power operational amplifier	DIL8	SO8	IC11	60
LM2901	quad voltage comparator	DIL14	SO14	IC11	62
LM2902	quad low-power operational amplifier	DIL14	SO14	IC11	60
LM2903	low-power dual voltage comparator	DIL8	SO8	IC11	63
LM2904	dual low-power operational amplifier	DIL8	SO8	IC11	60
LM293A	low-power dual voltage comparator	DIL8		IC11	62
LM293	low-power dual voltage comparator	DIL8, CERDIP8	SO8	IC11	62
LM311	voltage comparator	DIL8	SO8	IC11	62
LM319	dual voltage comparator	DIL14, CERDIP14	SO14	IC11	62
LM324A	quad low-power operational amplifier	DIL14	SO14	IC11	60
LM324	quad low-power operational amplifier	DIL14, CERDIP14	SO14	IC11	60
LM339A	quad voltage comparator	DIL14, CERDIP14		IC11	62
LM339	quad voltage comparator	DIL14	SO14	IC11	62
LM358A	dual low-power operational amplifier	DIL8	SO8	IC11	60
LM358	dual low-power operational amplifier	DIL8	SO8	IC11	60
LM393A	low-power dual voltage comparator	DIL8, CERDIP8		IC11	62
LM393	low-power dual voltage comparator	DIL8, CERDIP8	SO8	IC11	62
MAB8031AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAB8032AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAB8035HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8039HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8040HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8048H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8049H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8050H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAB8051AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAB8052AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAB8411	8-bit NMOS microcontroller	DIL28	SO28L	IC14	58
MAB8421	8-bit NMOS microcontroller	DIL28	SO28L	IC14	58
MAB8422	8-bit NMOS microcontroller	DIL20		IC14	58
MAB8441	8-bit NMOS microcontroller	DIL28	SO28L	IC14	58
MAB8442	8-bit NMOS microcontroller	DIL20		IC14	58
MAB8461	8-bit NMOS microcontroller	DIL28	SO28L	IC14	58
MAF80A35HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF80A39HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF80A40HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF80A48H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF80A49H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF80A50H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8031AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAF8032AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAF8035HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8039HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8040HL	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8048H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8049H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8050H	8-bit NMOS microcontroller	DIL40	PLCC44	IC14	57
MAF8051AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAF8052AH-2	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
MAF84A11	8-bit NMOS microcontroller	DIL28		IC14	58
MAF84A21	8-bit NMOS microcontroller	DIL28		IC14	58
MAF84A22	8-bit NMOS microcontroller	DIL20		IC14	58
MAF84A41	8-bit NMOS microcontroller	DIL28		IC14	58
MAF84A42	8-bit NMOS microcontroller	DIL20		IC14	58
MAF84A61	8-bit NMOS microcontroller	DIL28		IC14	58

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MAF8421	8-bit NMOS microcontroller	DIL28		IC14	58
MAF8422	8-bit NMOS microcontroller	DIL20		IC14	58
MAF8441	8-bit NMOS microcontroller	DIL28		IC14	58
MAF8442	8-bit NMOS microcontroller	DIL20		IC14	58
MAF8461	8-bit NMOS microcontroller	DIL28		IC14	58
MB2052	16-bit registered transceiver		QFP52	IC23	33
MB2240	16-bit inverting buffer		QFP52	IC23	32
MB2241	16-bit buffer/line driver		QFP52	IC23	32
MB2244	16-bit buffer/line driver		QFP52	IC23	32
MB2245	16-bit transceiver with direction pin		QFP52	IC23	33
MB2373	16-bit D-type transparent latch		QFP52	IC23	32
MB2374	16-bit D-type flip-flop		QFP52	IC23	23
MB2377	16-bit D-type flip-flop with enable		QFP52	IC23	23
MB2541	16-bit buffer/line driver		QFP52	IC23	32
MB2643	16-bit latched transceiver, dual enable		QFP52	IC23	33
MB2623	16-bit transceiver with dual enable		QFP52	IC23	33
MB2646	16-bit bus transceiver/register		QFP52	IC23	33
MB2652	16-bit bus transceiver/register		QFP52	IC23	33
MB2821	20-bit D-type flip-flop		QFP52	-	32
MB2823	18-bit D-type flip-flop, reset, enable		QFP52	-	32
MB2827	20-bit buffer/line driver		QFP52	-	32
MB2841	20-bit bus interface latch		QFP52	-	32
MB2843	18-bit bus interface latch, set/reset		QFP52	-	32
MB2845	16-bit bus interface latch, set/reset		QFP52	-	32
MB4052	32-bit registered transceiver		QFP100	-	33
MB4245	32-bit transceiver with direction pin		QPF100	IC23	33
MB4543	32-bit latched transceiver, dual enable		QFP100	-	33
MB4652	32-bit bus transceiver/register		QFP100	-	33
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MC1408-8	8-bit multiplying DAC		SO16	IC11	62
MC145406	EIA-232-D, CCITT V.28 driver/receiver	DIL16	SO16L	IC11	69
MC1458	dual gen. purpose operational amplifier	DIL8	SO8	IC11	60
MC1488	quad line driver	DIL14, CERDIP14	SO14	IC11	69
MC1489A	quad line receiver	DIL14, CERDIP14	SO14	IC11	69
MC1489	quad line receiver	DIL14, CERDIP14	SO14	IC11	69
MC1496	balanced modulator/demodulator	DIL14, CERDIP14		IC11	70
MC1508-8	8-bit multiplying DAC	CERDIP16		IC11	62
MC1558	dual gen. purpose operational amplifier	DIL8		IC11	60
MC1596	balanced modulator/demodulator	DIL14, CERDIP14		IC11	70
MC3302	quad voltage comparator	DIL14, CERDIP14	SO14	IC11	62
MC3361	low-power FM IF system	DIL16	SO16L	IC11	70
MC3410	10-bit high-speed multiplying DAC	CERDIP16		IC11	62
MC3410C	10-bit high-speed multiplying DAC	CERDIP16		IC11	62
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NE4558	dual gen. purpose operational amplifier	DIL8, CERDIP8	SO8	IC11	60
NE5018	8-bit microprocesor-compatible DAC	DIL22, CERDIP22	SO24L	IC11	62
NE5019	8-bit microprocesor-compatible DAC	DIL22		IC11	62
NE5020	10-bit microprocesor-compatible DAC	DIL24, CERDIP24		IC11	62
NE502A	Ethernet encoder/decoder	CERDIP24		IC19	69
NE5036	6-bit ADC with serial output	CERDIP8		IC11	62
NE5037	6-bit ADC with parallel outputs	DIL16		IC11	62
NE5044	programmable 7-channel RC encoder	DIL16	SO16	IC11	65
NE5050	power line modem	DIL20	SO20LL	IC11	69
NE5080	high-speed FSK modem transmitter	DIL16		IC11	69
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NE5170	octal line driver	DIL28	SO24L, PLCC28	IC11	69
NE5180	octal differential line receiver	DIL28	PLCC28	IC11	69
NE5181	octal differential line receiver	DIL28	PLCC28	IC11	69
NE5200	dual gain stage RF amplifier		SO8	DS-IC11	61, 70
NE5204A	wide band high-frequency amplifier	DIL8	SO8	IC11	61, 70, 85
NE5205A	wide band high-frequency amplifier	DIL8	SO8	IC11	61, 85
NE5209	850 MHz voltage-controlled amplifier	DIL16	SO16	-	61, 85
NE521	high-speed dual diff. comp./sense ampl.	DIL14, CERDIP14	SO14	IC11	63
NE5210	280 MHz transimpedance amplifier		SO14	IC11	61
NE5211	180 MHz transimpedance amplifier		SO14	IC11	61
NE5212A	140 MHz transimpedance amplifier	DIL8, CERDIP8	SO8	IC11	61
NE5214	fibre-optic post amplifier		SO20L	IC11	61
NE5217	fibre-optic post amplifier		SO20L	IC11	61
NE5219	700 MHz voltage-controlled amplifier	DIL16	SO16	-	61, 85
NE522	high-speed dual diff. comp./sense ampl.	DIL14, CERDIP14	SO14	IC11	63
NE5222	low-power low-noise FDDI amplifier		SO8	-	61
NE5224	FDDI fibre-optic amplifier		SO16	-	61
NE5225	FDDI fibre-optic amplifier		SO16	-	61
NE5230	low-voltage operational amplifier	DIL8	SO8	IC11	60
NE5234	quad low-voltage operational amplifier	DIL14	SO14	-	60
NE527	voltage comparator	DIL14	SO14	IC11	63
NE529	voltage comparator	DIL14	SO14	IC11	63
NE531	high slew rate operational amplifier	DIL8, CERDIP8		IC11	60
NE532	dual low-power operational amplifier	DIL8	SO8	IC11	60
NE5410	10-bit high-speed multiplying DAC	CERDIP16		IC11	62
NE5512	dual high-perf. operational amplifier	DIL8	SO8	IC11	60
NE5514	quad high-perf. operational amplifier	DIL14	SO16L	IC11	60
NE5517A	dual transconductance op-amp	DIL16		IC11	61
NE5517	dual transconductance op-amp	DIL16	SO16L	IC11	61
NE5521	LVDT signal conditioner	DIL18	SO16L	IC11	63
NE5532A	dual low-noise operational amplifier	DIL8, CERDIP8		IC11	60
NE5532	dual low-noise operational amplifier	DIL8, CERDIP8	SO16L	IC11	60
NE5533A	dual low-noise operational amplifier	DIL14	SO16	IC11	60
NE5533	dual low-noise operational amplifier	DIL14	SO16	IC11	60
NE5534A	single low-noise operational amplifier	DIL8, CERDIP8	SO8	IC11	60
NE5534	single low-noise operational amplifier	DIL8, CERDIP8	SO8	IC11	60
NE5537	low-leakage sample-and-hold amplifier	DIL8	SO14	IC11	61
NE5539	350 MHz operational amplifier	DIL14, CERDIP14	SO14	IC11	61, 70, 85
NE555	timer	DIL8, CERDIP14	SO8	IC11	63
NE556-1	dual timer	DIL14, CERDIP14		IC11	63
NE556	dual timer	DIL14, CERDIP14	SO14	IC11	63
NE5560	switched-mode power supply controller	DIL16		IC11	66
NE5561	switched-mode power supply controller	DIL8	SO8	IC11	66
NE5562	switched-mode power supply controller	DIL20	SO20L	IC11	66
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NE558	quad timer	DIL16	SO16L	IC11	63
NE5592	dual 110 MHz video amp., adjust. gain	DIL14	SO14	IC11	61, 85
NE564	phase-locked loop	DIL16, CERDIP16	SO16	IC11	63
NE566	function gen., square and triangle wave	DIL8, CERDIP14	SO8	IC11	63
NE567	tone/frequency decoder	DIL8, CERDIP14	SO8	IC11	63
NE568	phase-locked loop	DIL20	SO20L	IC11	63
NE570	compandor	DIL16, CERDIP16		IC11	71
NE571	compandor	DIL16, CERDIP16	SO16L	IC11	71
NE572	programmable analog compandor	DIL16	SO16L	IC11	71
NE575	low-voltage dual expander/single comp.	DIL20	SO20L, SSOP20	IC11	71

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NE575A	low-voltage dual expander/single comp.	DIL20	SO20L	-	71
NE5750	audio processor for RF communication	DIL24	SO24L	DS-IC11	71
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NE576	low-power compandor	DIL14	SO14	-	71
NE577	low-power compandor	DIL14	SO14	-	71
NE578	low-power compandor	DIL16	SO16	-	71
NE587	LED decoder/driver	DIL18, CERDIP18	SO20L	IC11	63
NE590	addressable peripheral drivers	DIL16		IC11	63
NE5900	call progress decoder	DIL16	SO16L	IC11	73
NE591	addressable peripheral drivers	DIL18, CERDIP18		IC11	63
NE592	120 MHz video amplifier, adjust. gain	CERDIP14	SO14, SO8	IC11	61, 85
NE592	120 MHz video amplifier, adjust. gain	DIL8, DIL14		IC11	61, 85
NE594	vacuum fluorescent display driver	DIL18, CERDIP18	SO20L	IC11	63
NE600	RF gain-stage and mixer		SO14	-	70
NE602A	double-balanced mixer and oscillator	DIL8, CERDIP8	SO8	IC11	70
NE604A	high-perform. low-power FM IF system	DIL16	SO16	IC11	70
NE605	high-perf. low-power mixer FM IF syst.	DIL20	SO20L, SSOP20	IC11	70
NE606	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	DS-IC11	71
NE607	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	DS-IC17	71
NE608	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	-	71
NE612A	double-balanced mixer and oscillator	DIL8	SO8	IC11	70
NE614A	low-power FM IF system	DIL16	SO16	IC01	70
NE615	high-perf. low-power mixer FM IF syst.	DIL20	SO20L, SSOP20	IC11	70
NE616	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	-	71
NE617	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	-	71
NE618	low-volt. high-perf. mixer FM IF syst.	DIL20	SO20L, SSOP20	-	71
NE624	high-perform. low-power FM IF system	DIL16	SO16	-	70
NE625	high-perf. low-power mixer FM IF syst.	DIL20	SO20L, SSOP20	-	70
NE630	single-pole double-throw switch	DIL8	SO8	DS-IC11	71
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NE702	devide by 64/65/72 ECL prescaler		SO8	-	70
NE703	devide by 128/129/144 ECL prescaler		SO8	-	70
NE8392A	coaxial Ethernet transceiver interface	DIL16	PLCC28	DS-IC11	69
NE86950B	EtherStar Ethernet controller		PLCC84, QFP80	DS-IC11	69
NE86C92	twisted-pair transceiver interface	DIL20	SO20L	DS-IC11	69
N3101A	64-bit TTL bipolar RAM (64×4)	DIL16	SO16	IC10	53
N74ALS00A	quad 2-input NAND gate	DIL14	SO14	IC05	38
N74ALS02	quad 2-input NOR gate	DIL14	SO14	IC05	38
N74ALS04B	hex inverter	DIL14	SO14	IC05	38
N74ALS08	quad 2-input AND gate	DIL14	SO14	IC05	37
N74ALS10A	triple 3-input NAND gate	DIL14	SO14	IC05	38
N74ALS109A	dual JK positive-edge triggered flip-flop	DIL16	SO16	IC05	37
N74ALS11A	triple 3-input AND gate	DIL14	SO14	IC05	38
N74ALS112	dual JK negative-edge trigg. flip-flop	DIL16	SO16	IC05	37
N74ALS138	3-line to 8-line decoder/demultiplexer	DIL16	SO16	IC05	36
N74ALS139	dual 2-line to 4-line decoder/demux	DIL16	SO16	IC05	36
N74ALS151	8-line to 1-line multiplexer	DIL16	SO16	IC05	39
N74ALS153	dual 4-line to 1-line multiplexer	DIL16	SO16	IC05	39
N74ALS157	quad 2-input data selector/multiplexer	DIL16	SO16	IC05	39
N74ALS158	quad 2-input data selector/multiplexer	DIL16	SO16	IC05	39
N74ALS161B	synchronous 4-bit binary counter	DIL16	SO16	IC05	36
N74ALS163B	synchronous 4-bit binary counter	DIL16	SO16	IC05	36
N74ALS164	8-bit serial-in/parallel-out shift reg.	DIL14	SO14	IC05	40
N74ALS174	hex D-type flip-flop with reset	DIL16	SO16	IC05	37
N74ALS175	quad D-type edge-triggered flip-flop	DIL16	SO16	IC05	37
N74ALS20A	dual 4-input NAND gate	DIL14	SO14	IC05	38

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N74ALS240A-1	octal inverter buffer	DIL20	SO20L	IC05	35
N74ALS240A	octal inverter buffer	DIL20	SO20L	IC05	35
N74ALS241A-1	octal buffer	DIL20	SO20L	IC05	35
N74ALS241A	octal buffer	DIL20	SO20L	IC05	35
N74ALS244A-1	octal buffer	DIL20	SO20L	IC05	35
N74ALS244A	octal buffer	DIL20	SO20L	IC05	35
N74ALS245A-1	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS245A	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS251	8-line to 1-line multiplexer	DIL16	SO16	IC05	39
N74ALS253	dual 4-line to 1-line multiplexer	DIL16	SO16	IC05	39
N74ALS257	quad 2-input data selector/multiplexer	DIL16	SO16	IC05	39
N74ALS258	quad 2-input data selector/multiplexer	DIL16	SO16	IC05	39
N74ALS27	triple 3-input NOR gate	DIL14	SO14	IC05	38
N74ALS273	octal D-type flip-flop with reset	DIL20	SO20L	IC05	37
N74ALS30A	8-input NAND gate	DIL14	SO14	IC05	38
N74ALS32	quad 2-input OR gate	DIL14	SO14	IC05	38
N74ALS373	octal transparent latch	DIL20	SO20L	IC05	39
N74ALS374	octal D-type flip-flop	DIL20	SO20L	IC05	37
N74ALS377	octal D-type flip-flop with clock enable	DIL20	SO20L	IC05	37
N74ALS38A	quad 2-input NAND buffer	DIL14	SO14	IC05	38
N74ALS543-1	octal registered transceiver	DIL24SK	SO24L	IC05	41
N74ALS543	octal registered transceiver	DIL24SK	SO24L	IC05	41
N74ALS544-1	octal registered transceiver	DIL24SK	SO24L	IC05	41
N74ALS544	octal registered transceiver	DIL24SK	SO24L	IC05	41
N74ALS563A	octal transparent latch	DIL20	SO20L	IC05	39
N74ALS564A	octal D-type flip-flop	DIL20	SO20L	IC05	37
N74ALS573B	octal transparent latch	DIL20	SO20L	IC05	39
N74ALS574A	octal D-type flip-flop	DIL20	SO20L	IC05	37
N74ALS620A-1	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS620A	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS623A-1	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS623A	octal bus transceiver	DIL20	SO20L	IC05	41
N74ALS645A-1	octal transceiver	DIL20	SO20L	IC05	41
N74ALS645A	octal transceiver	DIL20	SO20L	IC05	41
N74ALS646-1	octal bus transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS646	octal bus transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS648-1	octal bus transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS648	octal bus transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS651-1	octal transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS651	octal transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS652-1	octal transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS652	octal transceiver and register	DIL24SK	SO24L	IC05	41
N74ALS74A	dual D-type edge-triggered flip-flop	DIL14	SO14	IC05	37
N74ALS86	quad 2-input EXCLUSIVE-OR gate	DIL14	SO14	IC05	38
N74F00	quad 2-input NAND gate	DIL14	SO14	IC15	38
N74F02	quad 2-input NOR gate	DIL14	SO14	IC15	38
N74F04	hex inverter	DIL14	SO14	IC15	38
N74F06	hex inverter buffer/driver	DIL14	SO14	IC15	35
N74F07	hex buffer/line driver	DIL14	SO14	IC15	35
N74F08	quad 2-input AND gate	DIL14	SO14	IC15	37
N74F10	triple 3-input NAND gate	DIL14	SO14	IC15	38
N74F109	dual JK positive-edge triggered flip-flop	DIL16	SO16	IC15	37
N74F11	triple 3-input AND gate	DIL14	SO14	IC15	38
N74F112	dual JK negative-edge trigg. flip-flop	DIL16	SO16	IC15	37
N74F113	dual JK positive-edge triggered flip-flop	DIL14	SO14	IC15	37
N74F114	dual JK negative-edge trigg. flip-flop	DIL14	SO14	IC15	37

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N74F1240	octal buffer	DIL20	SO20L	IC15	35
N74F1241	octal buffer	DIL20	SO20L	IC15	35
N74F1242	quad transceiver	DIL14	SO14	IC15	42
N74F1243	quad transceiver	DIL14	SO14	IC15	42
N74F1244	octal buffer	DIL20	SO20L	IC15	35
N74F1245	octal bus transceiver	DIL20	SO20L	IC15	42
N74F125	quad buffer	DIL14	SO14	IC15	35
N74F126	quad buffer	DIL14	SO14	IC15	35
N74F13	dual 4-input NAND Schmitt trigger	DIL14	SO14	IC15	38, 40
N74F132	quad 2-input NAND Schmitt trigger	DIL14	SO14	IC15	38, 40
N74F133	13-input NAND gate	DIL16	SO16	IC15	38
N74F138	3-line to 8-line decoder/demultiplexer	DIL16	SO16	IC15	36
N74F139	dual 2-line to 4-line decoder/demux	DIL16	SO16	IC15	36
N74F14	hex inverter Schmitt trigger	DIL14	SO14	IC15	40
N74F148	8-line to 3-line priority encoder	DIL16	SO16	IC15	37
N74F151A	8-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F151	8-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F153	dual 4-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F154	4-line to 16-line decoder/demultiplexer	DIL24SK	SO24L	IC15	36
N74F157A	quad 2-input data selector/multiplexer	DIL16	SO16	IC15	39
N74F157	quad 2-input data selector/multiplexer	DIL16	SO16	IC15	39
N74F158A	quad 2-input data selector/multiplexer	DIL16	SO16	IC15	39
N74F158	quad 2-input data selector/multiplexer	DIL16	SO16	IC15	39
N74F160A	synchronous BCD decade counter	DIL16	SO16	IC15	36
N74F1604	dual octal latch	DIL28	SO28L	IC15	39
N74F161A	synchronous 4-bit binary counter	DIL16	SO16	IC15	36
N74F162A	synchronous BCD decade counter	DIL16	SO16	IC15	36
N74F163A	synchronous 4-bit binary counter	DIL16	SO16	IC15	36
N74F164	8-bit serial-in/parallel-out shift reg.	DIL14	SO14	IC15	40
N74F166	8-bit ser./par.-in/serial-out shift reg.	DIL16	SO16	IC15	40
N74F168	synchr. BCD decade up/down counter	DIL16	SO16	IC15	36
N74F169	synchr. 4-bit binary up/down counter	DIL16	SO16	IC15	36
N74F173	quad D-type flip-flop	DIL16	SO16	IC15	37
N74F174	hex D-type flip-flop with reset	DIL16	SO16	IC15	37
N74F175	quad D-type edge-trigg. flip-flop	DIL16	SO16	IC15	37
N74F1762	4 M-bit memory address controller	DIL40	PLCC44	IC15	54, 40
N74F1763	1 M-bit intelligent DRAM controller	DIL48	PLCC44	IC15	54, 40
N74F1764-1	1 M-bit DRAM dual ported controller	DIL48	PLCC44	IC15	54, 40
N74F1764	1 M-bit DRAM dual ported controller	DIL48	PLCC44	IC15	54, 40
N74F1765-1	1 M-bit DRAM dual ported controller	DIL48	PLCC44	IC15	54, 40
N74F1765	1 M-bit DRAM dual ported controller	DIL48	PLCC44	IC15	54, 40
N74F1766	burst-mode DRAM controller	DIL48	PLCC44	IC15	54, 40
N74F1779	8-bit bidirectional binary counter	DIL16	SO16L	IC15	36
N74F1804	hex 2-input NAND driver	DIL20	SO20L	IC15	37
N74F1805	hex 2-input NOR driver	DIL20	SO20L	IC15	37
N74F1808	hex 2-input NAND driver	DIL20	SO20L	IC15	37
N74F181	4-bit arithmetic logic unit	DIL24SK	SO24L	IC15	35
N74F182	look-ahead carry generator	DIL16	SO16	IC15	35
N74F1832	hex 2-input OR driver	DIL20	SO20L	IC15	37
N74F189A	64-bit TTL bipolar RAM (16×4)	DIL16	SO16	IC15, 10	54, 39
N74F190	preset. BCD decade up/down counter	DIL16	SO16	IC15	36
N74F191	preset. 4-bit binary up/down counter	DIL16	SO16	IC15	36
N74F192	preset. BCD decade up/down counter	DIL16	SO16	IC15	36
N74F193	preset. 4-bit binary up/down counter	DIL16	SO16	IC15	36
N74F194	4-bit bidirectional universal shift reg.	DIL16	SO16	IC15	40
N74F195	4-bit parallel access shift register	DIL16	SO16	IC15	40

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N74F198	4-bit bidirectional universal shift reg.	DIL24SK	SO24L	IC15	40
N74F199	4-bit parallel access shift register	DIL24SK	SO24L	IC15	40
N74F20	dual 4-input NAND gate	DIL14	SO14	IC15	38
N74F219A	64-bit TTL bipolar RAM (16×4)	DIL16	SO16	IC15, 10	54, 39
N74F2240	octal inv. buffer w. 30 Ω term. network	DIL20	SO20L	-	36
N74F2241	octal buffer with 30 Ω term. network	DIL20	SO20L	-	36
N74F2244	octal buffer with 30 Ω term. network	DIL20	SO20L	-	36
N74F225	16x5 asynchronous FIFO	DIL20	SO20L	IC15	40
N74F240	octal inverter buffer	DIL20	SO20L	IC15	35
N74F240A	octal inverter buffer	DIL20	SO20L	IC15	35
N74F241	octal buffer	DIL20	SO20L	IC15	35
N74F241A	octal buffer	DIL20	SO20L	IC15	35
N74F242	quad bus inverting transceiver	DIL14	SO14	IC15	41
N74F243	quad bus transceiver	DIL14	SO14	IC15	41
N74F244	octal buffer	DIL20	SO20L	IC15	35
N74F244A	octal buffer	DIL20	SO20L	IC15	35
N74F245	bus transceiver	DIL20	SO20L	IC15	41
N74F251A	8-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F251	8-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F253	dual 4-line to 1-line multiplexer	DIL16	SO16	IC15	39
N74F256	dual 4-bit addressable latch	DIL16	SO16	IC15	38
N74F257A	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC15	39
N74F257	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC15	39
N74F258A	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC15	39
N74F258	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC15	39
N74F259	8-bit addressable latch	DIL16	SO16	IC15	38
N74F260	dual 5-input NOR gate	DIL14	SO14	IC15	38
N74F269	8-bit binary counter	DIL24SK	SO24L	IC15	36
N74F27	triple 3-input NOR gate	DIL14	SO14	IC15	38
N74F273	octal D-type flip-flop with reset	DIL20	SO20L	IC15	37
N74F280A	9-bit odd/even parity generator/checker	DIL14	SO14	IC15	35
N74F280B	9-bit odd/even parity generator/checker	DIL14	SO14	IC15	35
N74F283	4-bit full adder with fast carry	DIL16	SO16	IC15	35
N74F2952	8-bit transceiver	DIL24SK	SO24L, PLCC28	IC15	42
N74F2953	8-bit transceiver	DIL24SK	SO24L, PLCC28	IC15	42
N74F298	quad 2-input multiplexer with storage	DIL16	SO16	IC15	40
N74F299	octal shift/storage register	DIL20	SO20L	IC15	40
N74F30	8-input NAND gate	DIL14	SO14	IC15	38
N74F30240	octal inv. 30 Ω transm. line driver	DIL24SK, CERDIP24	SO24L	IC15	37
N74F30244	octal 30 Ω transm.-line/backplane driver	DIL24SK, CERDIP24	SO24L	IC15	37
N74F30245	octal transc./30 Ω transm. line driver	DIL24SK, CERDIP24		IC15	37, 42
N74F3037	quad 2-inp. NAND, 30Ω transm. line dr.	DIL16	SO16L	IC15	37
N74F3038	quad 2-inp. NAND, 30Ω transm. line dr.	DIL16	SO16L	IC15	37
N74F3040	dual 4-inp. NAND, 30 Ω transm. line dr.	DIL16	SO16L	IC15	37
N74F30640	octal transc./30 Ω transm. line driver	DIL24SK, CERDIP24		IC15	37, 42
N74F32	quad 2-input OR gate	DIL14	SO14	IC15	38
N74F322	octal shift/storage register	DIL20	SO20L	IC15	40
N74F323	octal shift/storage register	DIL20	SO20L	IC15	40
N74F350	4-bit shift register	DIL16	SO16	IC15	40
N74F352	dual 4-input multiplexer	DIL16	SO16	IC15	39
N74F353	dual 4-input multiplexer	DIL16	SO16	IC15	39
N74F365	hex buffer/driver	DIL16	SO16	IC15	35
N74F366	hex inverter buffer	DIL16	SO16	IC15	35
N74F367	hex buffer/driver	DIL16	SO16	IC15	35
N74F368	hex inverter buffer	DIL16	SO16	IC15	35
N74F37	quad 2-input NAND buffer	DIL14	SO14	IC15	38

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type number	description	package through-hole	package SMD	handbook	page IC5.
N74F373	octal transparent latch	DIL20	SO20L	IC15	39
N74F374	octal D-type flip-flop	DIL20	SO20L	IC15	37
N74F377	octal D-type flip-flop with clock enable	DIL20	SO20L	IC15	37
N74F378	hex D-type flip-flop with clock enable	DIL16	SO16	IC15	37
N74F379	quad D-type flip-flop with enable	DIL16	SO16	IC15	37
N74F38	quad 2-input NAND buffer	DIL14	SO14	IC15	38
N74F381	4-bit arithmetic logic unit	DIL20	SO20L	IC15	35
N74F382	4-bit arithmetic logic unit	DIL20	SO20L	IC15	35
N74F385	quad serial adder/subtractor	DIL20	SO20L	IC15	35
N74F3893	quad FutureBus backplane transceiver		PLCC20	IC15	42
N74F393	dual 4-bit binary ripple counter	DIL14	SO14	IC15	36
N74F395	4-bit cascadable shift register	DIL16	SO16	IC15	40
N74F398	quad 2-port register true	DIL20	SO20L	IC15	40
N74F399	quad 2-port register true	DIL16	SO16	IC15	40
N74F40	dual 4-input NAND buffer	DIL14	SO14	IC15	38
N74F410	64-bit TTL bipolar RAM (16×4)	DIL18		IC15, 10	54, 39, 40
N74F412	multi-mode buffered latch	DIL24SK	SO24L	IC15	39
N74F432	multi-mode buffered latch	DIL24SK	SO24L	IC15	39
N74F455	octal buffer with parity gen./checker	DIL24SK	SO24L	IC15	35
N74F456	octal buffer with parity gen./checker	DIL24SK	SO24L	IC15	35
N74F50109	synchronizing dual JK flip-flop	DIL16	SO16	IC15	37
N74F50728	cascaded synchr. dual D-type flip-flop	DIL14	SO14	IC15	37
N74F50729	synchronizing dual D-type flip-flop	DIL14	SO14	IC15	37
N74F5074	synchronizing dual D-type flip-flop	DIL14	SO14	IC15	37
N74F51	dual 2-wide 2-input AND-OR-inv. gate	DIL14	SO14	IC15	38
N74F521	8-bit identify comparator	DIL20	SO20L	IC15	36
N74F524	8-bit register comparator	DIL20	SO20L	IC15	36
N74F5300	fiber-optic LED driver	DIL8	SO8	IC15	37
N74F5302	fiber-optic dual LED/clock driver	DIL14	SO14	IC15	37
N74F533	inverting octal D-type latch	DIL20	SO20L	IC15	39
N74F534	octal D-type flip-flop	DIL20	SO20L	IC15	37
N74F537	1-of-10 decoder	DIL20	SO20L	IC15	36
N74F538	1-of-8 decoder	DIL20	SO20L	IC15	36
N74F539	dual 1-of-4 decoder	DIL20	SO20L	IC15	36
N74F540	octal buffer/line driver	DIL20	SO20L	IC15	35
N74F541	octal non-inverting buffer/line driver	DIL20	SO20L	IC15	35
N74F543	octal registered transceiver	DIL24SK	SO24L	IC15	41
N74F544	octal registered transceiver	DIL24SK	SO24L	IC15	41
N74F545	octal bus transceiver	DIL20	SO20L	IC15	41
N74F547	octal decoder/demultiplexer	DIL20	SO20L	IC15	36
N74F548	octal decoder/demultiplexer	DIL20	SO20L	IC15	36
N74F552	octal reg. transceiver with status flags	DIL28	SO28L	IC15	41
N74F563	octal D-type latch	DIL20	SO20L	IC15	39
N74F564	octal D-type flip-flop	DIL20	SO20L	IC15	37
N74F568	BCD decade up/down synchr. counter	DIL20	SO20L	IC15	36
N74F569	4-bit binary up/down synchr. counter	DIL20	SO20L	IC15	36
N74F573	octal transparent latch	DIL20	SO20L	IC15	39
N74F574	octal D-type flip-flop	DIL20	SO20L	IC15	37
N74F579	8-bit binary up/down counter	DIL20	SO20L	IC15	36
N74F582	4-bit BCD arithmetic logic unit	DIL24SK	SO24L	IC15	35
N74F583	4-bit BCD adder	DIL16	SO16	IC15	35
N74F588	octal bidir. transc. with IEEE-488 term.	DIL20	SO20L	IC15	41
N74F595	8-bit shift register with output latches	DIL16	SO16	IC15	40
N74F597	8-bit shift register with input latches	DIL16	SO16	IC15	40
N74F598	8-bit shift register with input latches	DIL20	SO20L	IC15	40
N74F604	dual 8-bit register	DIL28	SO28L	IC15	39

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N74F605	dual 8-bit register	DIL28	SO28L	IC15	39
N74F620	octal bus transceiver	DIL20	SO20L	IC15	41
N74F621	octal bus transceiver	DIL20	SO20L	IC15	41
N74F622	octal bus transceiver	DIL20	SO20L	IC15	41
N74F623	octal bus transceiver	DIL20	SO20L	IC15	41
N74F64	4-2-3-2-input AND-OR-invert gate	DIL14	SO14	IC15	38
N74F640	octal bus transceiver	DIL20	SO20L	IC15	41
N74F641	octal bus transceiver	DIL20	SO20L	IC15	41
N74F642	octal bus transceiver	DIL20	SO20L	IC15	41
N74F646A	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F646	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F647	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F648A	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F648	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F649	octal bus transceiver and register	DIL24SK	SO24L	IC15	41
N74F651A	octal transceiver/register	DIL24SK	SO24L	IC15	41
N74F651	octal transceiver/register	DIL24SK	SO24L	IC15	41
N74F652A	octal transceiver/register	DIL24SK	SO24L	IC15	41
N74F652	octal transceiver/register	DIL24SK	SO24L	IC15	41
N74F653	octal transceiver/register	CERDIP24		IC15	41
N74F654	octal transceiver/register	CERDIP24		IC15	41
N74F655A	octal inv. buffer with parity gen./check.	DIL24SK	SO24L	IC15	35
N74F656A	octal buffer with parity gen./checker	DIL24SK	SO24L	IC15	35
N74F657	octal bus transc. with parity gen./check.	DIL24SK	SO24L	IC15	41
N74F670	4x4 register file	DIL16	SO16L	IC15	40
N74F674	16-bit ser./par.-in,serial out shift reg.	DIL24SK	SO24L	IC15	40
N74F676	16-bit ser./par.-in,serial out shift reg.	DIL24SK	SO24L	IC15	40
N74F711-1	quint 2-input mux with 30 Ω termination	DIL20	SO20L	IC15	39
N74F711	quintuple 2-input multiplexer	DIL20	SO20L	IC15	39
N74F712-1	quint 3-input mux with 30 Ω termination	DIL24SK	SO24L	IC15	39
N74F712	quintuple 3-input multiplexer	DIL24SK	SO24L	IC15	39
N74F723-1	quad 3-input mux with 30 Ω termination	DIL24SK	SO24L	IC15	39
N74F723	quad 3-input multiplexer	DIL24SK	SO24L	IC15	39
N74F725-1	quad 3-input mux with 30 Ω termination	DIL24SK	SO24L	IC15	39
N74F725	quad 3-input multiplexer	DIL24SK	SO24L	IC15	39
N74F732	quad data multiplexer	DIL20	SO20L	IC15	39
N74F733	quad data multiplexer	DIL20	SO20L	IC15	39
N74F74	dual D-type edge-triggered flip-flop	DIL14	SO14	IC15	37
N74F755	octal mailbox register with 'ready' flag	DIL24SK	SO24L	IC15	40
N74F756	octal inverter buffer	DIL20	SO20L	IC15	35
N74F757	octal buffer	DIL20	SO20L	IC15	35
N74F760	octal buffer	DIL20	SO20L	IC15	35
N74F764-1	DRAM dual ported controller	DIL40	PLCC44	IC15	54, 40
N74F764	DRAM dual ported controller	DIL40	PLCC44	IC15	54, 40
N74F765-1	DRAM dual ported controller w/o latch	DIL40	PLCC44	IC15	54, 40
N74F765	DRAM dual ported controller w/o latch	DIL40	PLCC44	IC15	54, 40
N74F776	octal bidir. latched bus transceiver	DIL28	PLCC28	IC15	41
N74F777	triple bidir. latched bus transceiver	DIL20	PLCC20	IC15	41
N74F779	8-bit bidirectional binary counter	DIL16	SO16L	IC15	36
N74F786	4-input asynchronous bus arbiter	DIL16	SO16	IC15	40
N74F804	hex 2-input NAND driver	DIL20	SO20L	IC15	36
N74F805	hex 2-input NOR driver	DIL20	SO20L	IC15	36
N74F807	octal shift/count registered transceiver	DIL28	SO28L, PLCC28	IC15	41
N74F808	hex 2-input AND driver	DIL20	SO20L	IC15	36
N74F821	10-bit bus interface register	DIL24SK	SO24L	IC15	40
N74F822	10-bit bus interface register	DIL24SK	SO24L	IC15	40

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N74F823	9-bit bus interface register	DIL24SK	SO24L	IC15	40
N74F824	9-bit bus interface register	DIL24SK	SO24L	IC15	40
N74F825	9-bit bus interface register	DIL24SK	SO24L	IC15	40
N74F826	9-bit bus interface register	DIL24SK	SO24L	IC15	40
N74F827	10-bit buffer line driver	DIL24SK	SO24L	IC15	35
N74F828	10-bit buffer line driver	DIL24SK	SO24L	IC15	35
N74F83	4-bit BCD adder	DIL16	SO16L	IC15	35
N74F832	hex 2-input OR driver	DIL20	SO20L	IC15	36
N74F835	8-bit shift register	DIL24SK	SO24L	IC15	40
N74F841	10-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F842	10-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F843	9-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F844	9-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F845	8-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F846	8-bit bus interface latch	DIL24SK	SO24L	IC15	39
N74F85	4-bit magnitude comparator	DIL16	SO16L	IC15	36
N74F86	quad 2-input EXCLUSIVE-OR gate	DIL14	SO14	IC15	38
N74F861	10-bit bus transceiver	DIL24SK	SO24L	IC15	41
N74F862	10-bit bus transceiver	DIL24SK	SO24L	IC15	41
N74F863	9-bit bus transceiver	DIL24SK	SO24L	IC15	41
N74F864	9-bit bus transceiver	DIL24SK	SO24L	IC15	41
N74F881	arithmetic logic unit/function generator	DIL24SK	SO24L	IC15	35
N74F882	32-bit look-ahead carry generator	DIL24SK	SO24L	IC15	35
N74F8960	octal latched bidir. FutureBus transc.	DIL28	PLCC28	IC15	42
N74F8961	octal latched bidir. FutureBus transc.	DIL28	PLCC28	IC15	42
N74F8962	9-bit latched bidir. FutureBus transc.		QFP44, PLCC44	IC15	42
N74F8963	9-bit latched bidir. FutureBus transc.		QFP44, PLCC44	IC15	42
N74F899	dual 9-bit latch trans., 8-bit parity	DIL28	PLCC28	IC15	41
N74LS00	quad 2-input NAND gate	DIL14	SO14	IC09	38
N74LS01	quad 2-input NAND gate	DIL14	SO14	IC09	38
N74LS02	quad 2-input NOR gate	DIL14	SO14	IC09	38
N74LS04	hex inverter	DIL14	SO14	IC09	38
N74LS05	hex inverter	DIL14	SO14	IC09	38
N74LS08	quad 2-input AND gate	DIL14	SO14	IC09	37
N74LS09	quad 2-input AND gate	DIL14	SO14	IC09	37
N74LS10	triple 3-input NAND gate	DIL14	SO14	IC09	38
N74LS107	dual JK master-slave flip-flop	DIL14	SO14	IC09	37
N74LS109A	dual JK positive-edge triggered flip-flop	DIL16	SO16	IC09	37
N74LS11	triple 3-input AND gate	DIL14	SO14	IC09	38
N74LS112	dual JK negative-edge trigg. flip-flop	DIL16	SO16	IC09	37
N74LS113	dual JK positive-edge triggered flip-flop	DIL14		IC09	37
N74LS125A	quad buffer	DIL14	SO14	IC09	35
N74LS126A	quad buffer	DIL14	SO14	IC09	35
N74LS13	dual 4-input NAND Schmitt trigger	DIL14	SO14	IC09	38, 40
N74LS132	quad 2-input NAND Schmitt trigger	DIL14	SO14	IC09	38, 40
N74LS136	quad EXCLUSIVE-OR gate	DIL14	SO14	IC09	38
N74LS138	3-line to 8-line decoder/demultiplexer	DIL16	SO16	IC09	36
N74LS139	dual 2-line to 4-line decoder/demux	DIL16	SO16	IC09	36
N74LS14	hex inverter Schmitt trigger	DIL14	SO14	IC09	40
N74LS151	8-line to 1-line multiplexer	DIL16	SO16	IC09	39
N74LS153	dual 4-line to 1-line multiplexer	DIL16	SO16	IC09	39
N74LS154	4-line to 16-line decoder/demultiplexer	DIL24	SO24L	IC09	36
N74LS155	dual 2-line to 4-line decoder/demux	DIL16	SO16	IC09	36
N74LS156	dual 2-line to 4-line decoder/demux	DIL16	SO16	IC09	36
N74LS157	quad 2-input data selector/multiplexer	DIL16	SO16	IC09	39
N74LS158	quad 2-input data selector/multiplexer	DIL16	SO16	IC09	39

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N74LS160A	synchronous BCD decade counter	DIL16		IC09	36
N74LS161A	synchronous 4-bit binary counter	DIL16	SO16	IC09	36
N74LS162A	synchronous BCD decade counter	DIL16		IC09	36
N74LS163A	synchronous 4-bit binary counter	DIL16	SO16	IC09	36
N74LS164	8-bit serial-in/parallel-out shift reg.	DIL14	SO14	IC09	40
N74LS169A	synchr. 4-bit binary up/down counter	DIL16	SO16	IC09	36
N74LS173	quad D-type flip-flop	DIL16	SO16	IC09	37
N74LS174	hex D-type flip-flop with reset	DIL16	SO16	IC09	37
N74LS175	quad D-type edge-triggered flip-flop	DIL16	SO16	IC09	37
N74LS191	preset. 4-bit binary up/down counter	DIL16	SO16L	IC09	36
N74LS192	preset. BCD decade up/down counter	DIL16	SO16L	IC09	36
N74LS193	preset. 4-bit binary up/down counter	DIL16	SO16L	IC09	36
N74LS20	dual 4-input NAND gate	DIL14	SO14	IC09	38
N74LS21	dual 4-input AND gate	DIL14	SO14	IC09	38
N74LS240	octal inverting buffer	DIL20	SO20L	IC09	35
N74LS241	octal buffer	DIL20	SO20L	IC09	35
N74LS242	quad bus inverting transceiver	DIL14		IC09	41
N74LS243	quad transceiver	DIL14		IC09	41
N74LS244	octal buffer	DIL20	SO20L	IC09	35
N74LS245	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS253	dual 4-line to 1-line multiplexer	DIL16	SO16	IC09	39
N74LS256	dual 4-bit addressable latch	DIL16	SO16	IC09	38
N74LS257A	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC09	39
N74LS258A	quad 2-line to 1-line data selector/mux	DIL16	SO16	IC09	39
N74LS259	8-bit addressable latch	DIL16	SO16	IC09	38
N74LS26	quad 2-input NAND gate	DIL14	SO14	IC09	38
N74LS260	dual 5-input NOR gate	DIL14	SO14	IC09	38
N74LS266	quad 2-input EXCLUSIVE-NOR gate	DIL14	SO14	IC09	38
N74LS273	octal D-type flip-flop with reset	DIL20	SO20L	IC09	37
N74LS283	4-bit full adder with fast carry	DIL16	SO16	IC09	35
N74LS290	4-bit decade ripple counter	DIL14	SO14	IC09	36
N74LS293	4-bit binary ripple counter	DIL14	SO14	IC09	36
N74LS298	quad 2-input multiplexer with storage	DIL16		IC09	40
N74LS30	8-input NAND gate	DIL14	SO14	IC09	38
N74LS301	256-bit TTL bipolar RAM (256×1)	DIL16	SO16	IC10	54, 39
N74LS32	quad 2-input OR gate	DIL14	SO14	IC09	38
N74LS33	quad 2-input NOR buffer	DIL14		IC09	38
N74LS352	dual 4-input multiplexer	DIL16	SO16	IC09	39
N74LS353	dual 4-input multiplexer	DIL16	SO16	IC09	39
N74LS365A	hex buffer/driver	DIL16	SO16	IC09	35
N74LS366A	hex inverter buffer	DIL16	SO16	IC09	35
N74LS367A	hex buffer/driver	DIL16	SO16	IC09	35
N74LS368A	hex inverter buffer	DIL16	SO16	IC09	35
N74LS37	quad 2-input NAND buffer	DIL14	SO14	IC09	38
N74LS373	octal transparent latch	DIL20	SO20L	IC09	39
N74LS374	octal D-type flip-flop	DIL20	SO20L	IC09	37
N74LS377	octal D-type flip-flop with clock enable	DIL20	SO20L	IC09	37
N74LS378	hex D-type flip-flop with clock enable	DIL16		IC09	37
N74LS38	quad 2-input NAND buffer	DIL14	SO14	IC09	38
N74LS390	dual decade ripple counter	DIL16	SO16	IC09	36
N74LS393	dual 4-bit binary ripple counter	DIL14	SO14	IC09	36
N74LS395A	4-bit cascadable shift register	DIL16		IC09	40
N74LS490	dual BCD decade ripple counter	DIL16		IC09	36
N74LS51	dual 2-wide 2-input AND-OR-inv. gate	DIL14	SO14	IC09	38
N74LS54	4-wide 2 and 3-input AND-OR-inv. gate	DIL14	SO14	IC09	38
N74LS540	octal buffer/line driver	DIL20	SO20L	IC09	35

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N74LS621	octal bus transceiver	DIL20		IC09	41
N74LS622	octal bus transceiver	DIL20		IC09	41
N74LS623	octal bus transceiver	DIL20		IC09	41
N74LS640-1	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS640	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS641-1	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS641	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS642-1	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS642	octal bus transceiver	DIL20		IC09	41
N74LS645-1	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS645	octal bus transceiver	DIL20	SO20L	IC09	41
N74LS670	4x4 register file	DIL16	SO16L	IC09	40
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N74LS74A	dual D-type edge-triggered flip-flop	DIL14	SO14	IC09	37
N74LS76	dual JK master-slave flip-flop	DIL16		IC09	37
N74LS764	dual port RAM controller	DIL40	PLCC44	IC09	40
N74LS765	dual port RAM controller without latch	DIL40	PLCC44	IC09	40
N74LS83A	4-bit binary full adder	DIL16	SO16	IC09	35
N74LS85	4-bit magnitude comparator	DIL16	SO16	IC09	36
N74LS86	quad 2-input EXCLUSIVE-OR gate	DIL14	SO14	IC09	38
N74LS90	4-bit decade ripple counter	DIL14		IC09	36
N74LS92	divide-by-twelve counter	DIL14	SO14	IC09	36
N74LS93	4-bit binary ripple counter	DIL14	SO14	IC09	36
N74LS96	5-bit shift register	DIL16		IC09	40
N74S00	quad 2-input NAND gate	DIL14	SO14	IC09	38
N74S02	quad 2-input NOR gate	DIL14	SO14	IC09	38
N74S03	quad 2-input NAND gate	DIL14	SO14	IC09	38
N74S04	hex inverter	DIL14	SO14	IC09	38
N74S05	hex inverter	DIL14	SO14	IC09	38
N74S08	quad 2-input AND gate	DIL14	SO14	IC09	37
N74S10	tripie 3-input NAND gate	DIL14	SO14	IC09	38
N74S11	triple 3-input AND gate	DIL14	SO14	IC09	38
N74S112	dual JK neg.-edge triggered flip-flop	DIL16	SO16L	IC09	37
N74S133	13-input NAND gate	DIL16	SO16	IC15	38
N74S134	12-input NAND gate	DIL16	SO16	IC09	38
N74S138	3-line to 8-line decoder/demultiplexer	DIL16	SO16L	IC09	36
N74S139	dual 2-line to 4-line decoder/demux	DIL16	SO16L	IC09	36
N74S140	dual 4-input NAND line driver (50 Ohm)	DIL14		IC09	38
N74S151	8-line to 1-line multiplexer	DIL16	SO16	IC09	39
N74S153	dual 4-line to 1-line multiplexer	DIL16	SO16	IC09	39
N74S157	quad 2-input data selector/multiplexer	DIL16	SO16	IC09	39
N74S158	quad 2-input data selector/multiplexer	DIL16	SO16	IC09	39
N74S174	hex D-type flip-flop with reset	DIL16	SO16	IC09	37
N74S175	quad D-type edge-triggered flip-flop	DIL16	SO16	IC09	37
N74S189	64-bit TTL bipolar RAM (16×4)	DIL16	SO16	IC10	53, 39
N74S194	4-bit bidirectional universal shift reg.	DIL16	SO16	IC09	40
N74S195	4-bit parallel access shift register	DIL16		IC09	40
N74S20	dual 4-input NAND gate	DIL14	SO14	IC09	38
N74S225	16x5 asynchronous FIFO (3-state)	DIL20	SO20L	IC09	40
N74S240	octal inverter buffer	DIL20	SO20L	IC09	35
N74S241	octal inverter buffer	DIL20	SO20L	IC09	35
N74S244	octal buffer	DIL20		IC09	35
N74S251	8-line to 1-line multiplexer	DIL16		IC09	39
N74S253	dual 4-line to 1-line multiplexer	DIL16	SO16	IC09	39

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N74S258	quad 2-input data selector/multiplexer	DIL16		IC09	39
N74S260	dual 5-input NOR gate	DIL14	SO14	IC09	38
N74S273	octal D-type flip-flop with reset	DIL20	SO20L	IC09	37
N74S280	9-bit odd/even parity generator/checker	DIL14		IC09	35
N74S301	256-bit TTL bipolar RAM (256×1)	DIL16	SO16	IC10	54, 39
N74S32	quad 2-input OR gate	DIL14	SO14	IC09	38
N74S37	quad 2-input NAND buffer	DIL14	SO14	IC09	38
N74S373	octal transparent latch	DIL20	SO20L	IC09	39
N74S374	octal D-type flip-flop	DIL20	SO20L	IC09	37
N74S38	quad 2-input NAND buffer	DIL14	SO14	IC09	38
N74S40	dual 4-input NAND buffer	DIL14		IC09	38
N74S51	dual 2-wide 2-input AND-OR-inv. gate	DIL14	SO14	IC09	38
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N74S74	dual D-type edge-triggered flip-flop	DIL14	SO14	IC09	37
N74S85	4-bit magnitude comparator	DIL16	SO16	IC09	36
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N7400	quad 2-input NAND gate	DIL14		IC09	38
N7402	quad 2-input NOR gate	DIL14		IC09	38
N7403	quad 2-input NAND gate	DIL14		IC09	38
N7404	hex inverter	DIL14		IC09	38
N7405	hex inverter	DIL14		IC09	38
N7406	hex inverter buffer/driver	DIL14	SO14	IC09	35
N7407	hex buffer/driver	DIL14	SO14	IC09	35
N7408	quad 2-input AND gate	DIL14		IC09	37
N7410	triple 3-input NAND gate	DIL14		IC09	38
N74121	monostable multivibrator	DIL14	SO14	IC09	40
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N74158	quad 2-input data selector/multiplexer	DIL16		IC09	39
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N74164	8-bit serial-in/parallel-out shift reg.	DIL14		IC09	40
N74166	8-bit ser./par.-in/serial-out shift reg.	DIL16	SO16L	IC09	40
N7417	hex buffer/driver	DIL14	SO14	IC09	35
N74174	hex D-type flip-flop with reset	DIL16		IC09	37
N74175	quad D-type edge-triggered flip-flop	DIL16		IC09	37
N74192	preset. BCD decade up/down counter	DIL16		IC09	36
N74193	preset. 4-bit binary up/down counter	DIL16		IC09	36
N74194	4-bit bidirectional universal shift reg.	DIL16		IC09	40
N74199	8-bit parallel-access shift register	DIL24		IC09	40
N7420	dual 4-input NAND gate	DIL14		IC09	38
N7425	dual 4-input NOR gate with strobe	DIL14		IC09	38
N7426	quad 2-input NAND gate	DIL14		IC09	38
N7432	quad 2-input OR gate	DIL14		IC09	38
N7433	quad 2-input NOR buffer	DIL14		IC09	38
N74365A	hex buffer/driver	DIL16		IC09	35
N74366A	hex inverter buffer	DIL16		IC09	35
N74367A	hex buffer/driver	DIL16		IC09	35
N74368A	hex inverter buffer	DIL16		IC09	35

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N7439	quad 2-input NAND buffer	DIL14		IC09	38
N7440	dual 4-input NAND buffer	DIL14		IC09	38
N7445	BCD-to-decimal decoder/driver	DIL16		IC09	36
N7451	dual 2-wide 2-input AND-OR-inv. gate	DIL14		IC09	38
N7474	dual D-type edge-triggered flip-flop	DIL14		IC09	37
N7485	4-bit magnitude comparator	DIL16		IC09	36
N7486	quad 2-input EXCLUSIVE-OR gate	DIL14		IC09	38
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N7493	4-bit binary ripple counter	DIL14		IC09	36
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N8T37	hex bus receiver - Schmitt trigger	DIL16		IC09	49
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N8X372-002	8-bit bidir. addressable I/O port	DIL24		-	55
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PC74HCT21	dual 4-input AND gate	DIL14	SO14	IC06	17
PC74HCT221	dual non-retrig. monovib with reset	DIL16	SO16	IC06	18

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PC74HCT237	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HCT238	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HCT240	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HCT241	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HCT242	quad bus transceiver	DIL14	SO14	IC06	19
PC74HCT243	quad bus transceiver	DIL14	SO14	IC06	19
PC74HCT244	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HCT245	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HCT251	8-input multiplexer	DIL16	SO16	IC06	18
PC74HCT253	dual 4-input multiplexer	DIL16	SO16	IC06	18
PC74HCT257	quad 2-input multiplexer	DIL16	SO16	IC06	18
PC74HCT258	quad 2-input multiplexer	DIL16	SO16	IC06	18
PC74HCT259	8-bit addressable latch	DIL16	SO16	IC06	18
PC74HCT27	triple 3-input NOR gate	DIL14	SO14	IC06	18
PC74HCT273	octal D-type flip-flop with reset	DIL20	SO20L	IC06	17
PC74HCT280	9-bit odd/even parity generator/checker	DIL14	SO14	IC06	16
PC74HCT283	4-bit binary full adder with fast carry	DIL16	SO16	IC06	16
PC74HCT297	digital phase-locked-loop filter	DIL16	SO16	IC06	19
PC74HCT299	8-bit universal shift register	DIL20	SO20L	IC06	19
PC74HCT30	8-input NAND gate	DIL14	SO14	IC06	18
PC74HCT32	quad 2-input OR gate	DIL14	SO14	IC06	18
PC74HCT354	8-input mux/register with latches	DIL20	SO20L	IC06	18, 19
PC74HCT356	8-input multiplexer/register	DIL20	SO20L	IC06	18, 19
PC74HCT365	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HCT366	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HCT367	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HCT368	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HCT373	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HCT374	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HCT377	octal D-type flip-flop with data enab.	DIL20	SO20L	IC06	17
PC74HCT390	dual decade ripple counter	DIL16	SO16	IC06	16
PC74HCT393	dual 4-bit binary ripple counter	DIL14	SO14	IC06	16
PC74HCT4002	dual 4-input NOR gate	DIL14	SO14	IC06	18
PC74HCT40102	8-bit synchronous BCD down counter	DIL16	SO16	IC06	16
PC74HCT40103	8-bit synchronous binary down counter	DIL16	SO16	IC06	16
PC74HCT40104	4-bit bidir. universal shift register	DIL16	SO16	IC06	19
PC74HCT40105	4-bit x 16 word FIFO register	DIL16	SO16	IC06	19, 54
PC74HCT4015	dual 4-bit ser.-in/par.-out shift reg.	DIL16	SO16	IC06	19
PC74HCT4016	quad bilateral switches	DIL14	SO14	IC06	19
PC74HCT4017	Johnson dec. cnt. with 10 decoded o/p	DIL16	SO16	IC06	16
PC74HCT4020	14-stage binary ripple counter	DIL16	SO16	IC06	16
PC74HCT4024	7-stage binary ripple counter	DIL14	SO14	IC06	16
PC74HCT4040	12-stage binary ripple counter	DIL16	SO16	IC06	16
PC74HCT4046A	phase-locked loop with VCO	DIL16	SO16	IC06	19, 63
PC74HCT4051	8-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HCT4052	dual 4-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HCT4053	triple 2-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HCT4059	programmable divide-by-n counter	DIL24, DIL24SK	SO24L	IC06	16
PC74HCT4060	14-stage binary ripple counter with osc.	DIL16	SO16	IC06	16
PC74HCT4066	quad bilateral switches	DIL14	SO14	IC06	19
PC74HCT4067	16-channel analog mux/demux	DIL24, DIL24SK	SO24L	IC06	18
PC74HCT4075	triple 3-input OR gate	DIL14	SO14	IC06	18
PC74HCT4094	8-stage shift-and-store bus register	DIL16	SO16	IC06	19
PC74HCT42	BCD to decimal decoder (1-of-10)	DIL16	SO16	IC06	17
PC74HCT423	dual retriggerable monovib with reset	DIL16	SO16	IC06	19
PC74HCT4316	quad bilateral switches	DIL16	SO16	IC06	19

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PC74HCT4351	8-channel analog mux/demux with latch	DIL20	SO20L	IC06	18
PC74HCT4352	dual 4-chan. an. mux/demux w. latch	DIL20	SO20L	IC06	18
PC74HCT4353	triple 2-chan. an. mux/demux w. latch	DIL20	SO20L	IC06	18
PC74HCT4510	BCD up/down counter	DIL16	SO16	IC06	16
PC74HCT4511	BCD to 7-segment latch/decoder/driver	DIL16	SO16	IC06	17
PC74HCT4514	4-to-16 line decoder/demultiplexer	DIL24, DIL24SK	SO24L	IC06	17
PC74HCT4515	4-to-16 line decoder/demultiplexer	DIL24, DIL24SK	SO24L	IC06	17
PC74HCT4516	binary up/down counter	DIL16	SO16	IC06	16
PC74HCT4518	dual synchronous BCD counter	DIL16	SO16	IC06	16
PC74HCT4520	dual synchronous 4-bit binary counter	DIL16	SO16	IC06	16
PC74HCT4538	dual retriggerable precision monovib	DIL16	SO16	IC06	19
PC74HCT4543	BCD-to-7 segm. latch/dec./dr. for LCDs	DIL16	SO16	IC06	17
PC74HCT533	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HCT534	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HCT540	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HCT541	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HCT5555	prog. delay timer with oscillator	DIL16	SO16	IC06	19
PC74HCT563	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HCT564	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HCT573	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HCT574	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HCT583	4-bit full adder with fast carry	DIL16	SO16	IC06	16
PC74HCT594	8-bit shift register with output reg.	DIL16	SO16	DS-IC06	19
PC74HCT595	8-bit ser.-in/ser. or par.-out sh. reg.	DIL16	SO16	IC06	19
PC74HCT597	8-bit shift register with input latches	DIL16	SO16	IC06	19
PC74HCT6323A	programmable ripple counter with osc.		SO8	IC06	16
PC74HCT640	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HCT643	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HCT646	octal bus transceiver/register	DIL24, DIL24SK	SO24L	IC06	19
PC74HCT648	octal bus transceiver/register	DIL24, DIL24SK	SO24L	IC06	19
PC74HCT652	octal registered bus transceiver	DIL24	SO24L	-	20
PC74HCT670	4 x 4 register file	DIL16	SO16	IC06	19
PC74HCT688	8-bit magnitude comparator	DIL20	SO20L	IC06	16
PC74HCT7030	9-bit x 64-word FIFO register	DIL28	SO28L	IC06	19, 54
PC74HCT7046A	PLL with lock detector	DIL16	SO16	IC06	19
PC74HCT7080	16-bit even/odd parity gen./checker	DIL20	SO20L	IC06	16
PC74HCT7245	octal bus Schmitt trigger transceiver	DIL20	SO20L	IC06	19, 20
PC74HCT73	dual JK flip-flop with reset	DIL14	SO14	IC06	17
PC74HCT74	dual D-type flip-flop with set and reset	DIL14	SO14	IC06	17
PC74HCT7403	4-bit x 64-word FIFO register	DIL16	SO16	IC06	19
PC74HCT7404	5-bit x 64-word FIFO register	DIL18	SO20L	IC06	19
PC74HCT75	quad bistable transparent latch	DIL16	SO16	IC06	18
PC74HCT7540	octal Schmitt trigger buffer/line driver	DIL20	SO20L	IC06	16, 19
PC74HCT7541	octal Schmitt trigger buffer/line driver	DIL20	SO20L	IC06	16, 19
PC74HCT7597	8-bit shift register with input latches	DIL16	SO16	IC06	19
PC74HCT7731	quad 64-bit static shift register	DIL16	SO16	IC06	19
PC74HCT85	4-bit magnitude comparator	DIL16	SO16	IC06	16
PC74HCT86	quad 2-input EXCLUSIVE-OR gate	DIL14	SO14	IC06	17
PC74HCT9014	nine-wide Schmitt trig. buf./line driver	DIL20	SO20L	IC06	16, 19
PC74HCT9015	nine-wide Schmitt trig. buf./line driver	DIL20	SO20L	IC06	16, 19
PC74HCT9114	nine-wide Schmitt trigger buffer	DIL20	SO20L	IC06	16, 19
PC74HCT9115	nine-wide Schmitt trigger buffer	DIL20	SO20L	IC06	16, 19
PC74HCT93	4-bit binary ripple counter	DIL14	SO14	IC06	16
PC74HCU04	hex inverter (unbuffered)	DIL14	SO14	IC06	18
PC74HC00	quad 2-input NAND gate	DIL14	SO14	IC06	18
PC74HC02	quad 2-input NOR gate	DIL14	SO14	IC06	18

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PC74HC03	quad 2-input NAND gate	DIL14	SO14	IC06	18
PC74HC04	hex inverter	DIL14	SO14	IC06	18
PC74HC08	quad 2-input AND gate	DIL14	SO14	IC06	17
PC74HC10	triple 3-input NAND gate	DIL14	SO14	IC06	18
PC74HC107	dual JK flip-flop with reset	DIL14	SO14	IC06	17
PC74HC109	dual JK flip-flop with set and reset	DIL16	SO16	IC06	17
PC74HC11	triple 3-input AND gate	DIL14	SO14	IC06	17
PC74HC112	dual JK flip-flop with set and reset	DIL16	SO16	IC06	17
PC74HC123	dual retriggerable monovib with reset	DIL16	SO16	IC06	18
PC74HC125	quad buffer/line driver	DIL14	SO14	IC06	16
PC74HC126	quad buffer/line driver	DIL14	SO14	IC06	16
PC74HC132	quad 2-input NAND Schmitt trigger	DIL14	SO14	IC06	18, 19
PC74HC133	13-input NAND gate	DIL14	SO14	IC06	18
PC74HC137	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HC138	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HC139	dual 2-to-4 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HC14	hex inverting Schmitt trigger	DIL14	SO14	IC06	19
PC74HC147	10-to-4 line priority encoder	DIL16	SO16	IC06	17
PC74HC151	8-input multiplexer	DIL16	SO16	IC06	18
PC74HC153	dual 4-input multiplexer	DIL16	SO16	IC06	18
PC74HC154	4-to-16 line decoder/demultiplexer	DIL24, DIL24SK	SO24L	IC06	17
PC74HC157	quad 2-input multiplexer	DIL16	SO16	IC06	18
PC74HC158	quad 2-input multiplexer	DIL16	SO16	IC06	18
PC74HC160	preset. synchr. BCD decade counter	DIL16	SO16	IC06	16
PC74HC161	preset. synchr. 4-bit binary counter	DIL16	SO16	IC06	16
PC74HC162	preset. synchr. BCD decade counter	DIL16	SO16	IC06	16
PC74HC163	preset. synchr. 4-bit binary counter	DIL16	SO16	IC06	16
PC74HC164	8-bit serial-in/parallel-out shift reg.	DIL14	SO14	IC06	19
PC74HC165	8-bit serial-in/parallel-out shift reg.	DIL16	SO16	IC06	19
PC74HC166	8-bit serial-in/parallel-out shift reg.	DIL16	SO16	IC06	19
PC74HC173	quad D-type flip-flop	DIL16	SO16	IC06	17
PC74HC174	hex D-type flip-flop with reset	DIL16	SO16	IC06	17
PC74HC175	quad D-type flip-flop with reset	DIL16	SO16	IC06	17
PC74HC181	4-bit arithmetic logic unit	DIL24, DIL24SK	SO24L	IC06	16
PC74HC182	look-ahead carry generator	DIL16	SO16	IC06	16
PC74HC190	preset. syn. BCD decade up/down cnt.	DIL16	SO16	IC06	16
PC74HC191	preset. syn. 4-bit binary up/down cnt.	DIL16	SO16	IC06	16
PC74HC192	preset. syn. BCD decade up/down cnt.	DIL16	SO16	IC06	16
PC74HC193	preset. syn. 4-bit binary up/down cnt.	DIL16	SO16	IC06	16
PC74HC194	4-bit bidir. universal shift register	DIL16	SO16	IC06	19
PC74HC195	4-bit parallel access shift register	DIL16	SO16	IC06	19
PC74HC20	dual 4-input NAND gate	DIL14	SO14	IC06	18
PC74HC21	dual 4-input AND gate	DIL14	SO14	IC06	17
PC74HC221	dual non-retrig. monovib with reset	DIL16	SO16	IC06	18
PC74HC237	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HC238	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC06	17
PC74HC240	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HC241	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HC242	quad bus transceiver	DIL14	SO14	IC06	19
PC74HC243	quad bus transceiver	DIL14	SO14	IC06	19
PC74HC244	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HC245	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HC251	8-input multiplexer	DIL16	SO16	IC06	18
PC74HC253	dual 4-input multiplexer	DIL16	SO16	IC06	18
PC74HC257	quad 2-input multiplexer	DIL16	SO16	IC06	18
PC74HC258	quad 2-input multiplexer	DIL16	SO16	IC06	18

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PC74HC259	8-bit addressable latch	DIL16	SO16	IC06	18
PC74HC27	triple 3-input NOR gate	DIL14	SO14	IC06	18
PC74HC273	octal D-type flip-flop with reset	DIL20	SO20L	IC06	17
PC74HC280	9-bit odd/even parity generator/checker	DIL14	SO14	IC06	16
PC74HC283	4-bit binary full adder with fast carry	DIL16	SO16	IC06	16
PC74HC297	digital phase-locked-loop filter	DIL16	SO16	IC06	19
PC74HC299	8-bit universal shift register	DIL20	SO20L	IC06	19
PC74HC30	8-input NAND gate	DIL14	SO14	IC06	18
PC74HC32	quad 2-input OR gate	DIL14	SO14	IC06	18
PC74HC354	8-input mux/register with latches	DIL20	SO20L	IC06	18, 19
PC74HC356	8-input multiplexer/register	DIL20	SO20L	IC06	18, 19
PC74HC365	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HC366	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HC367	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HC368	hex buffer/line driver	DIL16	SO16	IC06	16
PC74HC373	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HC374	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HC377	octal D-type flip-flop with data enab.	DIL20	SO20L	IC06	17
PC74HC390	dual decade ripple counter	DIL16	SO16	IC06	116
PC74HC393	dual 4-bit binary ripple counter	DIL14	SO14	IC06	16
PC74HC4002	dual 4-input NOR gate	DIL14	SO14	IC06	18
PC74HC40102	8-bit synchronous BCD down counter	DIL16	SO16	IC06	16
PC74HC40103	8-bit synchronous binary down counter	DIL16	SO16	IC06	16
PC74HC40104	4-bit bidir. universal shift register	DIL16	SO16	IC06	19
PC74HC40105	4-bit x 16 word FIFO register	DIL16	SO16	IC06	19, 54
PC74HC4015	dual 4-bit ser.-in/par.-out shift reg.	DIL16	SO16	IC06	19
PC74HC4016	quad bilateral switches	DIL14	SO14	IC06	19
PC74HC4017	Johnson dec. cnt. with 10 decoded o/p	DIL16	SO16	IC06	16
PC74HC4020	14-stage binary ripple counter	DIL16	SO16	IC06	16
PC74HC4024	7-stage binary ripple counter	DIL14	SO14	IC06	16
PC74HC4040	12-stage binary ripple counter	DIL16	SO16	IC06	16
PC74HC4046A	phase-locked loop with VCO	DIL16	SO16	IC06	19, 63
PC74HC4049	hex inverting HIGH-to-LOW level shifter	DIL16	SO16	IC06	18
PC74HC4050	hex HIGH-to-LOW level shifter	DIL16	SO16	IC06	18
PC74HC4051	8-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HC4052	dual 4-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HC4053	triple 2-channel analog mux/demux	DIL16	SO16	IC06	18
PC74HC4059	programmable divide-by-n counter	DIL24, DIL24SK	SO24L	IC06	16
PC74HC4060	14-stage binary ripple counter with osc.	DIL16	SO16	IC06	16
PC74HC4066	quad bilateral switches	DIL14	SO14	IC06	19
PC74HC4067	16-channel analog mux/demux	DIL24, DIL24SK	SO24L	IC06	18
PC74HC4075	triple 3-input OR gate	DIL14	SO14	IC06	18
PC74HC4094	8-stage shift-and-store bus register	DIL16	SO16	IC06	19
PC74HC42	BCD to decimal decoder (1-of-10)	DIL16	SO16	IC06	17
PC74HC423	dual retriggerable monovib with reset	DIL16	SO16	IC06	19
PC74HC4316	quad bilateral switches	DIL16	SO16	IC06	19
PC74HC4351	8-channel analog mux/demux with latch	DIL20	SO20L	IC06	18
PC74HC4352	dual 4-chan. an. mux/demux w. latch	DIL20	SO20L	IC06	18
PC74HC4353	triple 2-chan. an. mux/demux w. latch	DIL20	SO20L	IC06	18
PC74HC4510	BCD up/down counter	DIL16	SO16	IC06	16
PC74HC4511	BCD to 7-segment latch/decoder/driver	DIL16	SO16	IC06	17
PC74HC4514	4-to-16 line decoder/demultiplexer	DIL24, DIL24SK	SO24L	IC06	17
PC74HC4515	4-to-16 line decoder/demultiplexer	DIL24, DIL24SK	SO24L	IC06	17
PC74HC4516	binary up/down counter	DIL16	SO16	IC06	16
PC74HC4518	dual synchronous BCD counter	DIL16	SO16	IC06	16
PC74HC4520	dual synchronous 4-bit binary counter	DIL16	SO16	IC06	16

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PC74HC4538	dual retriggerable precision monovib	DIL16	SO16	IC06	19
PC74HC4543	BCD-to-7 segm. latch/dec./dr. for LCDs	DIL16	SO16	IC06	17
PC74HC533	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HC534	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HC540	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HC541	octal buffer/line driver	DIL20	SO20L	IC06	16
PC74HC5555	prog. delay timer with oscillator	DIL16	SO16	IC06	19
PC74HC563	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HC564	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HC573	octal D-type transparent latch	DIL20	SO20L	IC06	17
PC74HC574	octal D-type flip-flop	DIL20	SO20L	IC06	17
PC74HC58	dual AND-OR gate	DIL14	SO14	IC06	17
PC74HC583	4-bit full adder with fast carry	DIL16	SO16	IC06	16
PC74HC594	8-bit shift register with output reg.	DIL16	SO16	DS-IC06	19
PC74HC595	8-bit ser.-in/ser. or par.-out sh. reg.	DIL16	SO16	IC06	19
PC74HC597	8-bit shift register with input latches	DIL16	SO16	IC06	19
PC74HC6323A	programmable ripple counter with osc.		SO8	IC06	16
PC74HC640	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HC643	octal bus transceiver	DIL20	SO20L	IC06	19
PC74HC646	octal bus transceiver/register	DIL24, DIL24SK	SO24L	IC06	19
PC74HC648	octal bus transceiver/register	DIL24, DIL24SK	SO24L	IC06	19
PC74HC652	octal registered bus transceiver	DIL24	SO24L	-	20
PC74HC670	4 x 4 register file	DIL16	SO16	IC06	19
PC74HC688	8-bit magnitude comparator	DIL20	SO20L	IC06	16
PC74HC7030	9-bit x 64-word FIFO register	DIL28	SO28L	IC06	19, 54
PC74HC7046A	PLL with lock detector	DIL16	SO16	IC06	19
PC74HC7080	16-bit even/odd parity gen./checker	DIL20	SO20L	IC06	16
PC74HC7245	octal bus Schmitt trigger transceiver	DIL20	SO20L	IC06	19, 20
PC74HC7266	quad 2-input EXCLUSIVE-NOR gate	DIL14	SO14	IC06	18
PC74HC73	dual JK flip-flop with reset	DIL14	SO14	IC06	17
PC74HC74	dual D-type flip-flop with set and reset	DIL14	SO14	IC06	17
PC74HC7403	4-bit x 64-word FIFO register	DIL16	SO16	IC06	19
PC74HC7404	5-bit x 64-word FIFO register	DIL18	SO20L	IC06	19
PC74HC75	quad bistable transparent latch	DIL16	SO16	IC06	18
PC74HC7540	octal Schmitt trigger buffer/line driver	DIL20	SO20L	IC06	16, 19
PC74HC7541	octal Schmitt trigger buffer/line driver	DIL20	SO20L	IC06	16, 19
PC74HC7597	8-bit shift register with input latches	DIL16	SO16	IC06	19
PC74HC7731	quad 64-bit static shift register	DIL16	SO16	IC06	19
PC74HC85	4-bit magnitude comparator	DIL16	SO16	IC06	16
PC74HCT86	quad 2-input EXCLUSIVE-OR gate	DIL14	SO14	IC06	17
PC74HC9014	nine-wide Schmitt trig. buf./line driver	DIL20	SO20L	IC06	16, 19
PC74HC9015	nine-wide Schmitt trig. buf./line driver	DIL20	SO20L	IC06	16, 19
PC74HC9114	nine-wide Schmitt trigger buffer	DIL20	SO20L	IC06	16, 19
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PC74HC93	4-bit binary ripple counter	DIL14	SO14	IC06	16
P80C053BB	microcontroller for TV and video (MTV)	DIL42SHR		IC20	56, 84
P80C32EB	8-bit CMOS microcontroller	DIL40	PLCC44	IC20	55
P80C32GB	8-bit CMOS microcontroller		PLCC44, QFP44	IC20	55
P80C32GF	8-bit CMOS microcontroller	DIL40		IC20	55
P80C528FB	8-bit CMOS microcontroller	DIL40	PLCC44, QFP44	DS-IC20	55
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SCC68692E1	dual asyn. receiver/transm. (DUART)	DIL40, CERDIP40	PLCC44	IC19	69
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SCN2651CC1	programmable comm. controller (PCI)	DIL28, CERDIP28	PLCC28	IC19	69
SCN2652AA2	multi-protocol comm. controller (MPCC)	CERDIP40		IC19	69
SCN2652AM2	multi-protocol comm. controller (MPCC)	CERDIP40		IC19	69
SCN2652AC2	multi-protocol comm. controller (MPCC)	DIL40, CERDIP40	PLCC44	IC19	69
SCN26562C2	dual univ. serial comm. contr. (DUSCC)	DIL48	PLCC52	DS-IC19	69
SCN26562C4	dual univ. serial comm. contr. (DUSCC)	DIL48	PLCC52	DS-IC19	69
SCN2661AA1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN2661AC1	enhanced prog. comm. contr. (EPCI)	DIL28, CERDIP28	PLCC28	IC19	69
SCN2661AM1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN2661BA1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN2661BC1	enhanced prog. comm. contr. (EPCI)	DIL28, CERDIP28	PLCC28	IC19	69
SCN2661BM1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN2661CA1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN2661CC1	enhanced prog. comm. contr. (EPCI)	DIL28, CERDIP28	PLCC28	IC19	69
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SCN2681AC1	dual asyn. receiver/transm. (DUART)	DIL28, CERDIP28		IC19	69
SCN2681AC1	dual asyn. receiver/transm. (DUART)	DIL24		IC19	69
SCN2681AE1	dual asyn. receiver/transm. (DUART)	DIL40, CERDIP40	PLCC44	IC19	69
SCN2681TC1	dual asyn. receiver/transm. (DUART)	DIL40	PLCC44	IC19	69
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SCN68562C4	dual univ. serial comm. contr. (DUSCC)	DIL48	PLCC52	IC19	69
SCN68652AA2	multi-protocol comm. controller (MPCC)	CERDIP40		IC19	69
SCN68652AM2	multi-protocol comm. controller (MPCC)	CERDIP40		IC19	69
SCN68652AC2	multi-protocol comm. controller (MPCC)	DIL40, CERDIP40	PLCC44	IC19	69
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SCN68661AC1	enhanced prog. comm. contr. (EPCI)	DIL28, CERDIP28	PLCC28	IC19	69
SCN68661AM1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN68661BA1	enhanced prog. comm. contr. (EPCI)	CERDIP28		IC19	69
SCN68661BC1	enhanced prog. comm. contr. (EPCI)	DIL28, CERDIP28	PLCC28	IC19	69
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SCN8032HAF	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
SCN8032HCC	8-bit NMOS microcontroller	DIL40	PLCC44	IC20	57
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TDA1602A	double-deck playback/record IC	DIL40		DS-IC01	78
TDA2501	PAL/NTSC encoder	DIL16	SO16L	IC02	86
TDA2506	SECAM encoder	DIL24	SO24L	IC02	86
TDA2507	FM modulator controller	DIL16	SO16L	IC02	86
TDA2515A	dual FM modem for FM VHS hi-fi audio	DIL42SHR		-	86
TDA2518	dual hi-fi noise reduction circuit	DIL32SHR		-	86
TDA2543	TV AM-sound IF circuit	DIL18		IC02	80
TDA2545A	quasi-split-sound circuit	DIL16		IC02	79
TDA2546A	quasi-split-sound circuit	DIL18		IC02	79
TDA2549	IF amp. and demodul. for multist. TV	DIL24		IC02	79
TDA2555	dual TV sound demodulator	DIL18		IC02	80
TDA2556	quasi-split-sound circuit	DIL24		IC02	79
TDA2557	dual TV sound demodulator	DIL18		IC02	80
TDA2558	quasi-split-sound circuit			-	79
TDA2577A	TV sync circuit with vert. oscillator	DIL18		IC02	83

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TDA2578A	TV sync circuit with vert. oscillator	DIL18		IC02	83
TDA2579B	horizontal/vertical sync circuit	DIL18		IC02	83
TDA2579C	horizontal/vertical sync circuit	DIL18		-	83
TDA2582	control circuit for power supplies	DIL16		IC02	83
TDA2582Q	control circuit for power supplies	QIL16		IC02	83
TDA2593	horizontal combination	DIL16		IC02	83, 86
TDA2594	horizontal combination	DIL18		IC02	83, 86
TDA2595	horizontal combination	DIL18		IC02	83, 86
TDA2611A	5 W audio power amplifier	SIL9		IC01	76
TDA2613	6 W hi-fi audio power amplifier	SIL9		IC01	76
TDA2614	6 W hi-fi audio power amplifier	SIL9MP		DS-IC01	76
TDA2615	2×6 W hi-fi audio power amplifier	SIL9MP		DS-IC01	76
TDA2616	2×12 W hi-fi audio power amplifier	SIL9P		DS-IC01	76
TDA2616Q	2×12 W hi-fi audio power amplifier	DBS9P		DS-IC01	76
TDA2653A	vertical deflection circuit	DBS13		IC02	83, 87
TDA2654	vertical deflection circuit	SIL9		IC02	83, 87
TDA2655B	vertical deflection circuit	DIL12		IC02	83
TDA2658	vertical deflection circuit	DBS13		IC02	83, 87
TDA2795	TV stereo/dual sound ident. decoder	DIL18		IC02	80
TDA3047	IR remote control receiver	DIL16	SO16L	IC01, 02	89
TDA3048	IR remote control receiver	DIL16	SO16L	IC01, 02	89
TDA3504	PAL/SECAM video control combination	DIL20		DS-IC02	81
TDA3505	PAL/SECAM video control combination	DIL28		IC02	81
TDA3506	PAL/SECAM video control combination	DIL28		IC02	81
TDA3507	PAL/SECAM video control combination	DIL28		IC02	81, 87
TDA3561A	PAL decoder	DIL28		IC02	81
TDA3565	PAL decoder	DIL18		IC02	81
TDA3566A	PAL/NTSC decoder	DIL28		IC02	81
TDA3567	NTSC decoder	DIL18		IC02	81
TDA3569B	NTSC decoder with fast blanking	DIL20		DS-IC02	81
TDA3590A	SECAM processor circuit	DIL24		IC02	81
TDA3592A	SECAM-PAL transcoder	DIL24		IC02	81
TDA3601Q	multiple-output voltage regulator	DBS13P		DS-IC01	66, 78
TDA3601AQ	multiple-output voltage regulator	DBS13P		DS-IC01	66, 78
TDA3602	multiple-output voltage regulator	SIL9MP		DS-IC01	66, 78
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TDA3653C	vertical deflection and guard circuit	SIL9		IC02	83
TDA3654	vertical deflection and guard circuit	SIL9		IC02	83
TDA3654Q	vertical deflection and guard circuit	SBD9		IC02	83
TDA3724	SECAM identification circuit	DIL18		IC02	86
TDA3725	SECAM (L) chrominance processor	DIL18		IC02	86
TDA3730	freq. demod., drop-out compensator	DIL28		IC02	86
TDA3740	video processor and freq. modulator	DIL28		IC02	86
TDA3755	PAL/NTSC/SECAM sync. processor	DIL18		IC02	86
TDA3760	PAL chrominance signal processor	DIL28		IC02	86
TDA3765	NTSC chrominance signal processor	DIL28		IC02	86
TDA3791	band selector and window detector	DIL16		IC02	86
TDA3800GS	TV stereo/dual sound processor	DIL28		IC02	80
TDA3803A	TV stereo/dual sound decoder	DIL28		IC02	80
TDA3810	spatial, stereo and pseudo-stereo crt.	DIL18		IC02	80
TDA3825	single FM TV-sound demodulator	DIL14		IC02	80
TDA3826	single FM TV-sound demodulator	DIL14		IC02	80
TDA3827	TV-sound demodulator	DIL18		IC02	80
TDA3830	BTSC-stereo/SAP/DBX decoder	DIL32SHR		IC02	80
TDA3833	BTSC-stereo/SAP/DBX dec., DBX exp.	DIL32SHR		DS-IC02	80
TDA3840	TV IF amplifier and demodulator	DIL20	SO20L	DS-IC02	79

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TDA3842	multist. TV IF amp. and demodulator	DIL20	SO20L	DS-IC02	79
TDA3843	TV AM-sound IF circuit	DIL16		IC02	80
TDA3845	quasi-split-sound circuit	DIL16		IC02	79
TDA3850	multist. TV IF amp. and demodulator	DIL24		-	79
TDA3851	multist. TV IF amp. and demodulator			-	79
TDA3852	multist. TV IF amp. and demodulator	DIL20		-	79
TDA3853	TV IF amplifier and demodulator			-	79
TDA3856	quasi-split-sound circuit	DIL24SHR		IC02	79
TDA3857	quasi-split-sound circuit	DIL20		IC02	79
TDA3858	quasi-split-sound circuit	DIL32SHR		IC02	80
TDA3866	quasi-split-sound circuit	DIL24SHR		-	80
TDA3867	quasi-split-sound circuit			-	80
TDA3868	quasi-split-sound circuit			-	80
TDA4501	CTV small signal combination circuit	DIL28		IC02	83
TDA4502A	CTV small signal combination circuit	DIL28		IC02	83
TDA4504B	small signal combi for multistandard TV	DIL32		-	83
TDA4505E	CTV small signal combination circuit	DIL28		IC02	83
TDA4510	PAL decoder	DIL16		IC02	81
TDA4532	SECAM decoder	DIL28		IC02	81
TDA4555	multistandard TV decoder	DIL28		IC02	81
TDA4556	multistandard TV decoder	DIL28		IC02	81
TDA4557	multistandard TV decoder	DIL28		IC02	81
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TDA4563	colour transient improvement circuit	DIL18		-	81
TDA4565	colour transient improvement circuit	DIL18		IC02	81
TDA4566	colour transient improvement circuit	DIL18		IC02	81
TDA4568	luminance signal delay circuit	DIL18		IC02	81
TDA4570	NTSC decoder	DIL16		IC02	81
TDA4580	video control combination	DIL28		IC02	81
TDA4632	SECAM decoder	DIL28		-	81
TDA4650	multistandard TV colour decoder	DIL28		IC02	81
TDA4655	multistandard TV colour decoder			-	81
TDA4657	PAL/SECAM colour decoder			-	81
TDA4660	64 μs baseband delay line	DIL16	SO16	IC02	81
TDA4661	baseband delay line	DIL16		DS-IC02	81
TDA4670	picture signal improvement circuit (PSI)	DIL18		DS-IC02	81
TDA4680	video processor	DIL28		-	82
TDA4685	video processor	DIL28		-	82
TDA4686	video processor	DIL28		DS-IC02	82
TDA4710H	VHS PAL, SECAM processor		QFP48	IC02	86
TDA4720	SECAM ident. and chrominance corr.	DIL16	SO16	IC02	86
TDA4725	SECAM-L chrominance processor	DIL28	SO28L	IC02	86
TDA4800	vertical deflection circuit for monitors	DBS13		IC02	83, 87
TDA4810	sync proc. and hor. driver for monitors	DIL20		DS-IC02	86
TDA4820	video sync separation circuit		SO8	IC02	83
TDA4850	hor./vert. defl. contr. for monitors	DIL20		DS-IC02	86
TDA4851	hor./vert. defl. contr. for monitors			-	86
TDA4860	vert. defl. power ampl. for monitors	SIL9MPF		DS-IC02	87
TDA4861	vert. defl. power ampl. for monitors			-	87
TDA4880	advanced monitor video controller	DIL20		DS-IC02	87
TDA5030A	TV VHF mixer/oscillator/UHF pre-amp	DIL18	SO20L	IC02, 11	79
TDA5040	DC motor drive circuit		SO8	IC01	65, 86
TDA5140A	brushless DC motor drive circuit	DIL18	SO20L	DS-IC01	65, 86
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TDA5142	brushless DC motor drive circuit		SO24L	DS-IC01	65, 86

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TDA5331	VHF, UHF and hyperband mixer/osc.			-	79
TDA5332	double mixer/osc. for TV/VCR tuners		SO20L	IC02	79
TDA5333	double mixer/osc. for TV/VCR tuners			-	79
TDA5340	VCM and spindle driver			-	65
TDA5341	VCM and spindle driver			-	65
TDA5630	3-band mixer oscillator		SO20L, SSOP20	DS-IC02	79
TDA5631	3-band mixer oscillator			-	79
TDA6101Q	8 MHz video output amplifier	DBS9MP		DS-IC02	82
TDA6101AQ	8 MHz video output amplifier	DBS9MP		-	82
TDA6111Q	16 MHz video output amplifier	DBS9MP		DS-IC02	82
TDA6800	video modulator circuit	DIL8	SO8	IC02	86
TDA7000	FM radio circuit	DIL18		IC01	75
TDA7010	FM radio circuit		SO16	IC01	75
TDA7021	FM radio circuit for MTS		SO16	IC01	75
TDA7030	low-voltage micro tuning system (MTS)		SO28L	IC01	75
TDA7040	low-voltage PLL stereo decoder		SO8	IC01	75
TDA7050	150 mW BTL, 2×75 mW power ampl.	DIL8	SO8	IC01	77
TDA7052	1 W BTL mono audio power amplifier	DIL8		IC01	77
TDA7052A	1 W BTL mono audio power amplifier	DIL8		DS-IC01	77
TDA7052AT	0.5 W BTL mono audio power ampl.		SO8	DS-IC01	77
TDA7053	2×1 W portable/mains-fed power ampl.	DIL16		IC01	77
TDA7056	3 W BTL mono audio power amplifier	SIL9MP		IC01	77
TDA7056A	3 W BTL mono audio power amplifier	SIL9P		DS-IC01	77
TDA7057Q	2×3 W BTL audio power amplifier	DBS13		DS-IC01	77
TDA7072	single power driver	DIL8		IC01	65, 77, 78
TDA7072A	single BTL power driver	DIL8	SO8	DS-IC01	65, 77, 78
TDA7073	dual power driver	DIL16		IC01	65, 77, 78
TDA7073A	dual BTL power driver	DIL16	SO16L	DS-IC01	65, 77, 78
TDA7088	FM receiver circuit for battery supply		SO16	IC01	75
TDA8302	CTV small signal combination circuit	DIL32		DS-IC02	83
TDA8303	TV small signal combination			-	83
TDA8303A	TV small signal combination			-	83
TDA8304	CTV small signal combination circuit	DIL32		DS-IC02	83
TDA8305A	CTV small signal combination circuit	DIL28		IC02	83
TDA8340	TV IF amplifier and demodulator	DIL16		IC02	79
TDA8340Q	TV IF amplifier and demodulator	QIL16		IC02	79
TDA8341	TV IF amplifier and demodulator	DIL16		IC02	79
TDA8341Q	TV IF amplifier and demodulator	QIL16		IC02	79
TDA8349A	multist. TV IF ampl. and demodulator	DIL20		IC02	79
TDA8350Q	DC-coupled vertical deflection circuit	DBS13P		DS-IC02	83
TDA8351	DC deflection vertical output			-	83, 87
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TDA8361	one-chip PAL/NTSC TV			-	83
TDA8362	multistandard TV procesor	DIL52SHR		DS-IC02	83
TDA8370	sync processor for television receivers	DIL28		IC02	83
TDA8380	switched-mode power supply controller	DIL16		IC02	66, 83, 87
TDA8385	self-oscillating power supply controller	DIL16		DS-IC02	66, 83
TDA8390A	one-chip PAL decoder and RGB matrix	DIL32		IC02	82
TDA8391	one-chip PAL decoder and RGB matrix	DIL32		DS-IC02	82
TDA8395	alignment-free SECAM decoder	DIL16		DS-IC02	83
TDA8415	TV/VTR stereo/dual sound processor	DIL20		IC02	80
TDA8416	TV/VTR stereo/dual sound processor	DIL20		IC02	80
TDA8417	TV/VTR stereo/dual sound processor	DIL20		IC02	80
TDA8420	hi-fi stereo audio processor	DIL28		IC02	80

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TDA8425	hi-fi stereo audio processor	DIL20		IC02	80
TDA8426	hi-fi stereo audio processor	DIL20		DS-IC02	80
TDA8433	TV deflection processor	DIL24		DS-IC02	83, 86
TDA8440	CTV receiver switch	DIL18		IC02	82
TDA8442	I^2C-bus interface for colour decoders	DIL16		IC02	86, 87
TDA8443A	I^2C-bus controlled YUV/RGB switch	DIL24		IC02	82
TDA8444	octuple 6-bit DAC with I^2C-bus	DIL16		IC01, 02	86, 87
TDA8451A	P^2CCD delay line and matrix	DIL16		DS-IC02	82
TDA8452A	P^2CCD filter combi. for colour decoders	DIL16		DS-IC02	82
TDA8453	P^2CCD filter combi. for CVBS/S-VHS	DIL18		DS-IC02	82
TDA8453A	P^2CCD filter combi. for CVBS/S-VHS	DIL18		DS-IC02	82
TDA8466	PAL/NTSC decoder			-	82
TDA8490	SECAM decoder	DIL18		IC02	82
TDA8501	PAL/NTSC encoder			-	86
TDA8505	SECAM encoder			-	86
TDA8540	4×4 video switch matrix	DIL20	SO20L	DS-IC02	82
TDA8702	8-bit high-perf., high-speed video DAC	DIL16	SO16L	IC02	62, 82
TDA8703	8-bit high-perf., high-speed ADC	DIL24	SO24L	DS-IC02	62, 82
TDA8706	6-bit ADC with multiplexer and clamp	DIL20	SO20L	DS-IC02	82
TDA8708	video analog input interface	DIL28	SO28L	IC02	82
TDA8709	video analog input interface	DIL28	SO28L	IC02	82
TDA8712	8-bit high-perf., high-speed video DAC	DIL16	SO16L	-	82
TDA8713	8-bit high-perf., high-speed ADC	DIL24	SO24L	IC02	62, 82
TDA8715	8-bit high-perf., high-speed ADC	DIL18	SO20L	IC02	62, 82
TDA8716	8-bit high-speed ADC		SO28XL	-	82
TDA8730	PLL FM demodulator for DBS signals	DIL16		DS-IC02	85
TDA8732	NICAM-728 demodulator (NIDEM)	DIL20		DS-IC02	80
TDA8734	signal conditioner for multist. MAC dec.		SO24L	DS-IC02	85
TDA8735	PLL frequency synthesizer			-	85
TDA8740	satellite sound crt., noise reduction	DIL42SHR	QFP44	DS-IC02	85
TDA8741	satellite sound crt., noise reduction	DIL42SHR	QFP44	DS-IC02	85
TDA8808A	photo-diode signal procesor for CD		SO28L	IC01	78
TDA8808	photo-diode signal procesor for CD		SO28L	IC01	78
TDA8809	radial error signal processor for CD		SO28L	IC01	78
TDA8900	photo-diode signal and rad. error proc.	DIL40		DS-IC01	78
TDA9045	video processor and input-selector	DIL18		IC02	82
TDA9080	video control combination	DIL28		IC02	82
TDA9141	alignment-free multistandard decoder			-	82
TDA9150	programmable deflection controller	DIL20		DS-IC02	83
TDA9151	programmable deflection controller	DIL20		DS-IC02	83
TDA9160	PAL/NTSC/SECAM dec./ sync proc.	DIL32SHR		DS-IC02	82
TDA9800	TV IF amplifier and PLL-demodulator	DIL20		-	79
TDA9802	multist. IF amp and PLL-demodulator	DIL20		-	79
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TDA9820	multist. TV FM sound demodulator	DIL16		IC02	80
TDA9821	dual chan. TV FM-PLL sound demod.	DIL16		-	80, 85
TDA9830	TV AM-sound IF circuit			-	80
TDA9840	TV stereo/dual sound processor	DIL20	SO20L	DS-IC02	80
TDA9845	TV/VTR stereo/dual sound processor			-	80
TDA9860	universal hi-fi audio processor	DIL32SHR		-	80
TDB1080	IF limiter, FM detector and audio ampl.	DIL16	SO16	IC01	75
TDD1742	low-power freq. synthesizer (LOPSY)		SO28L	IC01	70, 75
TDE8712	8-bit video DAC	CERDIP16		IC02	62, 82
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TEA0665	Dolby B and C noise reduction circuit	DIL28	S028	IC01	77
TEA0675	dual Dolby B noise reduction circuit			-	77
TEA1017	13-bit ser.-par. conv., display driver	DIL18		IC11	63
TEA1039	switched-mode power supply controller	SIL9		IC02	66, 87
TEA1041	battery voltage low-level indicator		SO8	-	66, 78
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TEA1068	speech transmission circuit	DIL18	SO20L	IC03	73
TEA1081	supply circuit for telephone sets	DIL8	SO8	IC03	74
TEA1082	call progress monitor	DIL8		DS-IC03	73
TEA1083	call progress monitor	DIL8		DS-IC03	73
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TEA5551	single-chip AM radio		SO16	IC01	75
TEA5570	RF/IF circuit for AM/FM radio	DIL16		IC01	75
TEA5580	PLL stereo decoder	DIL16		IC01	75
TEA5581	PLL stereo decoder	DIL16	SO16L	IC01	75
TEA5582	BTSC PLL stereo decoder	DIL20		IC02	80
TEA5591	AM/FM radio receiver circuit	DIL20		IC01	75
TEA5591A	AM/FM radio receiver circuit	DIL24SHR		IC01	75
TEA5592	AM/FM radio receiver circuit	DIL24SHR		IC01	75
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TEA6101	antenna diversity circuit	DIL18	SO20L	-	75
TEA6200	AM upconversion radio receiver	DIL20		IC01	75
TEA6300	car radio pre-amp and source selector	DIL28	SO28L	IC01	76
TEA6310	sound fader control circuit		SO28L	IC01	76
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TSA5512	1.3 GHz bidirectional synthesizer		SSOP20	DS-IC02	79
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TSA6057	radio tuning PLL frequency synthesizer	DIL16	SO16L	IC01	75
TSA9036	IR remote control receiver	SIL5		DS-IC01	89
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UAA2050	low-power digital UHF pager receiver		SO28L	IC03	74
UAA2080	advanced pager receiver		SO28L	DS-IC03	74
UAA2090	900 MHz frontend for cordless comm.		SO20L	DS-IC03	74
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µA733C	differential video amplifier	DIL14		IC11	61, 85
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µA741C	general purpose operational amplifier	DIL8	SO8	IC11	60
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100101	triple 5-input OR/NOR gate	CERDIP24	PLCC28, QCERPA24	IC08	47
100102	quint 2-inp. OR/NOR, common enable	CERDIP24	PLCC28, QCERPA24	IC08	47
100107	quint EXCL. OR/NOR gate, compare	CERDIP24	PLCC28, QCERPA24	IC08	47
100112	quad double fan-out OR/NOR gate	CERDIP24	PLCC28, QCERPA24	IC08	47
100113	quad fan-out OR/NOR gate	CERDIP24	PLCC28, QCERPA24	IC08	47
100114	quintuple differential line receiver	CERDIP24	PLCC28, QCERPA24	IC08	47
100117	triple 1-2-2 input OR/AND-OR/NAND	CERDIP24	PLCC28, QCERPA24	IC08	47
100118	quint 2-4-4-4-5 inp. OR/AND-OR/NAND	CERDIP24	PLCC28, QCERPA24	IC08	47
100122	9-bit buller gate	CERDIP24	PLCC28, QCERPA24	IC08	47
100123	hex bus driver	CERDIP24	PLCC28, QCERPA24	IC08	47
100124	hex TTL to ECL translator	CERDIP24	PLCC28, QCERPA24	IC08	48
100125	hex ECL to TTL translator	CERDIP24	PLCC28, QCERPA24	IC08	48
100126	9-bit buffer gate	CERDIP24	PLCC28	IC08	47
100131	triple D-type master-slave flip-flop	CERDIP24	PLCC28, QCERPA24	IC08	47
100136	multipurpose counting register	CERDIP24	PLCC28, QCERPA24	IC08	47
100141	8-bit universal shift register	CERDIP24	PLCC28, QCERPA24	IC08	48
100149A	1024-bit ECL bipolar PROM (256×4)	CERDIP16		IC10, 8	48
100149	1024-bit ECL bipolar PROM (256×4)	CERDIP16		IC10, 8	48
100150	hex D-type latch	CERDIP24	PLCC28, QCERPA24	IC08	47
100151	hex D-type master-slave flip-flop	CERDIP24	PLCC28, QCERPA24	IC08	47
100155	quadruple 2-way multiplexer latch	CERDIP24	PLCC28, QCERPA24	IC08	47
100158	8-bit shift matrix	CERDIP24	PLCC28, QCERPA24	IC08	47
100160	dual 9-bit parity gen./8-bit comparator	CERDIP24	PLCC28, QCERPA24	IC08	47
100163	dual 8-bit multiplexer	CERDIP24	PLCC28, QCERPA24	IC08	47
100164	16-input multiplexer	CERDIP24	PLCC28, QCERPA24	IC08	47
100165	universal priority encoder	CERDIP24	PLCC28, QCERPA24	IC08	47
100166	9-bit comparator	CERDIP24	PLCC28, QCERPA24	IC08	47
100170	universal demultiplexer/decoder	CERDIP24	PLCC28, QCERPA24	IC08	47
100171	triple bit 4-way multiplexer	CERDIP24	PLCC28, QCERPA24	IC08	47
100175	5-bit 100K to 10K interface with latch	CERDIP16		IC08	47, 48
100179	high-speed carry look ahead generator	CERDIP24	PLCC28, QCERPA24	IC08	47
100180	fast 6-bit adder	CERDIP24	PLCC28, QCERPA24	IC08	47
100181	4-bit ALU binary/decimal	CERDIP24	PLCC28	IC08	47
100231	triple D-type master-slave flip-flop	CERDIP24	PLCC28, QCERPA24	IC08	47
100255	5-bit ECL/TTL interface	CERDIP16		IC08	48
100790	9-bit transceiver		PLCC28	IC08	48

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100982	hex ECL-TTL translator with registers		PLCC28	IC08	48
100984	quad ECL-TTL translator with registers		PLCC28	IC08	48
100990	9-bit transceiver		PLCC28	IC08	48
10100	quad 3-input NOR gate	DIL16, CERDIP16		IC08	44
10101	quad 2-input OR/NOR gate	DIL16, CERDIP16		IC08	44
10102	quad 2-input, 3 NOR, 1 OR/NOR gate	DIL16, CERDIP16	SO16	IC08	44
10103	quad 2-input, 3 OR, 1 OR/NOR gate	DIL16, CERDIP16		IC08	44
10104	quad 2-inp., 3 AND, 1 AND/NAND gate	DIL16, CERDIP16	SO16	IC08	44
10105	triple 2-3-2 input OR/NOR gate	DIL16, CERDIP16		IC08	44
10107	triple 2-inp. EXOR/EXNOR gate	DIL16, CERDIP16	SO16	IC08	44
10109	dual 4-5 input OR/NOR gate	DIL16, CERDIP16		IC08	44
10113	quad EXOR gate with enable	DIL16, CERDIP16		IC08	44
10114	triple line receiver (output OR/NOR)	DIL16, CERDIP16		IC08	44
10115	quad line receiver (output OR)	DIL16, CERDIP16		IC08	44
10116	triple line receiver (output OR/NOR)	DIL16, CERDIP16	SO16	IC08	44
10124	quadruple TTL to ECL translator	DIL16, CERDIP16	SO16	IC08	44
10125	quadruple ECL to TTL translator	DIL16, CERDIP16	SO16	IC08	44
10129	quadruple TTL to ECL translator	DIL16, CERDIP16		IC08	44
10131	dual D-type master-slave flip-flop	DIL16, CERDIP16	SO16	IC08	44
10133	quad latch with D-type inp., enab. outp.	DIL16, CERDIP16		IC08	44
10134	dual 2-inp. mux, clocked D-type latches	DIL16, CERDIP16		IC08	44
10135	dual JK master-slave flip-flop	DIL16, CERDIP16		IC08	44
10136	universal hexadecimal counter	DIL16, CERDIP16		IC08	44
10137	universal decade counter	DIL16, CERDIP16		IC08	44
10141	4-bit universal shift register	DIL16, CERDIP16		IC08	44
10149A	1024-bit ECL bipolar PROM (256×4)	CERDIP16		IC10, 8	45
10149	1024-bit ECL bipolar PROM (256×4)	CERDIP16		IC10, 8	45
10158	quad 2-to-1 multiplexer	DIL16, CERDIP16		IC08	44
10160	12-bit parity generator/checker	DIL16, CERDIP16		IC08	44
10164	8-input multiplexer with enable input	DIL16, CERDIP16	SO16	IC08	44
10173	quad 2-inp. mux with latched outputs	DIL16, CERDIP16		IC08	44
10174	dual 4-to-1 multiplexer with enable	DIL16, CERDIP16		IC08	44
10175	quint D-type latch, common reset	DIL16, CERDIP16		IC08	44
10176	hex D-type master-slave flip-flop	DIL16, CERDIP16		IC08	44
10180	dual 2-bit adder/subtractor	DIL16, CERDIP16		IC08	44
10192	quadruple current-mode bus driver	DIL16, CERDIP16		IC08	44
10216	triple differential OR/NOR line receiver	DIL16, CERDIP16		IC08	44
10231	high-speed dual D-type m-s flip-flop	DIL16, CERDIP16		IC08	44
27C010-12	1 M-bit CMOS EPROM (128K×8)	DIL32, CERDIP32	PLCC32	-	52
27C010-15	1 M-bit CMOS EPROM (128K×8)	DIL32, CERDIP32	PLCC32	-	52
27C010-20	1 M-bit CMOS EPROM (128K×8)	DIL32, CERDIP32	PLCC32	-	52
27C010I15	1 M-bit CMOS EPROM (128K×8)	DIL32, CERDIP32	PLCC32	-	52
27C010I20	1 M-bit CMOS EPROM (128K×8)	DIL32, CERDIP32	PLCC32	-	52
27C210-12	1 M-bit CMOS EPROM (64K×16)	DIL40, CERDIP40	PLCC44	-	52
27C210-15	1 M-bit CMOS EPROM (64K×16)	DIL40, CERDIP40	PLCC44	IC10	52
27C210-20	1 M-bit CMOS EPROM (64K×16)	DIL40, CERDIP40	PLCC44	IC10	52
27C210I15	1 M-bit CMOS EPROM (64K×16)	DIL40, CERDIP40	PLCC44	-	52
27C210I20	1 M-bit CMOS EPROM (64K×16)	DIL40, CERDIP40	PLCC44	-	52
27C256-12	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C256-15	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C256-17	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C256-20	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C256-90	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	-	52
27C256A12	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	-	52
27C256A15	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	-	52
27C256A20	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	-	52

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27C256I12	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	-	52
27C256I15	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C256I20	256K CMOS EPROM (32K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C512-12	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512-15	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C512-17	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C512-20	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C512-90	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512A12	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512A15	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512A20	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512I12	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512I15	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C512I20	512K CMOS EPROM (64K×8)	DIL28, CERDIP28	PLCC32	-	52
27C64A-12	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C64A-15	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C64A-17	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	-	52
27C64A-20	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C64A-90	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	-	52
27C64AA15	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	-	52
27C64AA20	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	-	52
27C64AI15	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27C64AI20	64K CMOS EPROM (8K×8)	DIL28, CERDIP28	PLCC32	IC10	52
27HC641-45	64K CMOS EPROM (8K×8)	DIL24, CERDIP24	PLCC28	IC10	52
27HC641-55	64K CMOS EPROM (8K×8)	DIL24, CERDIP24	PLCC28	IC10	52
74ABT125	quad buffer	DIL14	SO14	IC23	32
74ABT126	quad buffer	DIL14	SO14	IC23	32
74ABT240	octal inverting buffer	DIL20	SO20L	IC23	32
74ABT240-1	octal inverting buffer	DIL20	SO20L	IC23	32
74ABT241	octal buffer/line driver	DIL20	SO20L	IC23	32
74ABT244	octal buffer/line driver	DIL20	SO20L	IC23	32
74ABT245	octal transceiver with direction pin	DIL20	SO20L	IC23	32
74ABT273	octal D-type flip-flop	DIL20	SO20L	IC23	32
74ABT373	octal D-type transparent latch	DIL20	SO20L	IC23	32
74ABT374	octal D-type flip-flop	DIL20	SO20L	IC23	32
74ABT377	octal D-type flip-flop with enable	DIL20	SO20L	IC23	32
74ABT534	octal D-type flip-flop	DIL20	SO20L	IC23	32
74ABT540	octal buffer	DIL20	SO20L	IC23	32
74ABT541	octal buffer/line driver	DIL20	SO20L	IC23	32
74ABT543	octal latched transceiver, dual enable	DIL24SK	SO24L	IC23	32
74ABT544	octal latched transceiver, dual enable	DIL24SK	SO24L	IC23	32
74ABT573	octal D-type transparent latch	DIL20	SO20L	IC23	32
74ABT574	octal D-type flip-flop	DIL20	SO20L	IC23	32
74ABT620	octal transceiver with dual enable	DIL20	SO20L	IC23	32
74ABT623	octal transceiver with dual enable	DIL20	SO20L	IC23	32
74ABT640	octal transceiver with direction pin	DIL20	SO20L	IC23	32
74ABT646	octal bus transceiver/register	DIL24SK	SO24L	IC23	32
74ABT648	octal bus transceiver/register	DIL24SK	SO24L	IC23	32
74ABT651	transceiver/register	DIL24SK	SO24L	IC23	32
74ABT652	transceiver/register	DIL24SK	SO24L	IC23	32
74ABT657	octal transceiver, parity gen./check	DIL24	SO24L	IC23	32
74ABT821	10-bit D-type flip-flop	DIL24SK	SO24L	IC23	32
74ABT823	9-bit D-type flip-flop, reset and enable	DIL24SK	SO24L	IC23	32
74ABT827	10-bit buffer/line driver	DIL24SK	SO24L	IC23	32
74ABT833	octal transceiver, parity gen./check	DIL24SK	SO24L	IC23	32
74ABT834	octal inv. transceiver, par. gen./check	DIL24SK	SO24L	IC23	32

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74ABT841	10-bit bus interface latch	DIL24SK	SO24L	IC23	32
74ABT843	9-bit bus interface latch, set and reset	DIL24SK	SO24L	IC23	32
74ABT845	8-bit bus interface latch, set and reset	DIL24	SO24L	IC23	32
74ABT853	8-bit transc., 9-bit par. gen./check	DIL24SK	SO24L	IC23	32
74ABT854	8-bit inv. transc., 9-bit par. gen./chk	DIL24SK	SO24L	IC23	32
74ABT861	10-bit bus transceiver	DIL24	SO24L	IC23	32
74ABT863	9-bit bus transceiver	DIL24SK	SO24L	IC23	33
74ABT899	9-bit dual latch tr., 8-b par. gen./chk	DIL28SK	SO28L	IC23	33
74ABT2952	octal registered transceiver	DIL24SK	SO24L	IC23	33
74ABT2953	octal registered transceiver	DIL24SK	SO24L	IC23	33
74ACT11000	quad 2-input NAND gate	DIL16	SO16	IC07	27
74ACT11002	quad 2-input NOR gate	DIL16	SO16	IC07	27
74ACT11004	hex inverter	DIL20	SO20L	IC07	27
74ACT11008	quad 2-input AND gate	DIL16	SO16	IC07	27
74ACT11010	triple 3-input NAND gate	DIL16	SO16	IC07	27
74ACT11011	triple 3-input AND gate	DIL16	SO16	IC07	27
74ACT11013	dual 4-input NAND Schmitt trigger	DIL14	SO14	IC07	27
74ACT11014	hex inverter Schmitt trigger	DIL20	SO20L	IC07	27
74ACT11020	dual 4-input NAND gate	DIL14	SO14	IC07	27
74ACT11021	dual 4-input AND gate	DIL14	SO14	IC07	27
74ACT11027	triple 3-input NOR gate	DIL16	SO16	IC07	27
74ACT11030	8-input NAND gate	DIL14	SO14	IC07	27
74ACT11032	quad 2-input OR gate	DIL16	SO16	IC07	27
74ACT11034	hex non-inverter	DIL20	SO20L	IC07	27
74ACT11074	dual D-type flip-flop with set and reset	DIL14	SO14	IC07	26
74ACT11086	quad 2-input EXCLUSIVE-OR gate	DIL16	SO16	IC07	27
74ACT11109	dual JK flip-flop with set and reset	DIL16	SO16	IC07	26
74ACT11112	dual JK flip-flop with set and reset	DIL16	SO16	IC07	26
74ACT11132	quad 2-input NAND Schmitt trigger	DIL16	SO16	IC07	27
74ACT11138	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC07	26
74ACT11139	dual 2-to-4 line decoder/demultiplexer	DIL16	SO16	IC07	26
74ACT11151	8-input multiplexer	DIL16	SO16	IC07	27
74ACT11153	dual 4-input multiplexer	DIL16	SO16	IC07	27
74ACT11157	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74ACT11158	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74ACT11160	synchr. preset synchr.BCD decade cntr	DIL20	SO20L	IC07	26
74ACT11161	synchr. preset synchr. 4-bit binary cntr	DIL20	SO20L	IC07	26
74ACT11162	synchr. preset BCD decade counter	DIL20	SO20L	IC07	26
74ACT11163	synchr. preset 4-bit binary counter	DIL20	SO20L	IC07	26
74ACT11174	hex D-type flip-flop with reset	DIL20	SO20L	IC07	26
74ACT11175	quad D-type flip-flop with reset	DIL20	SO20L	IC07	26
74ACT11190	asyn. pr. syn. BCD decade up/dn cntr	DIL20	SO20L	IC07	26
74ACT11191	asyn. pr. syn. 4-bit binary up/dn cntr	DIL20	SO20L	IC07	26
74ACT11194	4-bit bidir. universal shift register	DIL20	SO20L	IC07	27
74ACT11238	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC07	26
74ACT11239	dual 2-to-4 line decoder/demultiplexer	DIL16	SO16	IC07	26
74ACT11240	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74ACT11241	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74ACT11244	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74ACT11245	octal transceiver with direction pin	DIL24SK	SO24L	IC07	27
74ACT11251	8-input multiplexer	DIL16	SO16	IC07	27
74ACT11253	dual 4-input multiplexer	DIL16	SO16	IC07	27
74ACT11257	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74ACT11258	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74ACT11269	asyn. pr. 4-bit binary up/dn counter	DIL28SK	SO28L	IC07	26
74ACT11273	octal D-type flip-flop with reset	DIL24SK	SO24L	IC07	26

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74ACT11280	9-bit odd/even parity generator/checker	DIL14	SO14	IC07	26
74ACT11353	dual 4-input multiplexer	DIL16	SO16	IC07	27
74ACT11373	octal D-type transparent latch	DIL24SK	SO24L	IC07	26
74ACT11374	octal D-type flip-flop	DIL24SK	SO24L	IC07	26
74ACT11377	octal D-type flip-flop with enable	DIL24SK	SO24L	IC07	26
74ACT11378	hex D-type flip-flop with enable	DIL20	SO20L	IC07	26
74ACT11379	quad D-type flip-flop with data enable	DIL20	SO20L	IC07	26
74ACT11470	octal transceiver/reg. with dual enable	DIL28SK	SO28L	IC07	27
74ACT11471	octal transceiver/reg. with dual enable	DIL28SK	SO28L	IC07	27
74ACT11520	8-bit identity comp. with input pull-up	DIL20	SO20L	IC07	26
74ACT11521	8-bit identity comparator	DIL20	SO20L	IC07	26
74ACT11533	octal D-type transparent latch	DIL24SK	SO24L	IC07	26
74ACT11534	octal D-type flip-flop	DIL24SK	SO24L	IC07	26
74ACT11543	octal latched transceiver w. dual enable	DIL28SK	SO28L	IC07	28
74ACT11544	octal latched transceiver w. dual enable	DIL28SK	SO28L	IC07	28
74ACT11579	8-bit bin. up/down counter common I/O	DIL24SK	SO24L	IC07	26
74ACT11620	octal transceiver with dual enable	DIL24SK	SO24L	IC07	28
74ACT11623	octal transceiver with dual enable	DIL24SK	SO24L	IC07	28
74ACT11640	octal transceiver with direction pin	DIL24SK	SO24L	IC07	28
74ACT11643	octal transceiver	DIL24SK	SO24L	IC07	28
74ACT11646	octal transc./reg. with direction pin	DIL28SK	SO28L	IC07	28
74ACT11648	octal transc./reg. with direction pin	DIL28SK	SO28L	IC07	28
74ACT11651	octal transc./reg. with dual enable	DIL28SK	SO28L	IC07	28
74ACT11652	octal transc./reg. with dual enable	DIL28SK	SO28L	IC07	28
74ACT11656	oct. buf./line dr. 9-bit par. gen./check	DIL28SK	SO28L	IC07	26
74ACT11657	oct. transc. with 8-bit par. check/gen.	DIL28SK	SO28L	IC07	28
74ACT11810	quad 2-input EXCLUSIVE-NOR gate	DIL16	SO16	IC07	27
74ACT11821	10-wide D-type flip-flop	DIL28SK	SO28L	IC07	26
74ACT11827	10-wide buffer/line driver	DIL28SK	SO28L	IC07	26
74ACT11828	10-wide buffer/line driver	DIL28SK	SO28L	IC07	26
74ACT11873	dual D-type transparent latch with reset	DIL28SK	SO28L	IC07	26
74ACT11874	dual D-type 4-bit flip-flop with reset	DIL28SK	SO28L	IC07	26
74ACT11898	10-bit ser.-in par.-out shift register	DIL20	SO20L	IC07	27
74ACT11979	8-bit multiplexed I/O read-back register	DIL16	SO16	IC07	27
74AC11000	quad 2-input NAND gate	DIL16	SO16	IC07	27
74AC11002	quad 2-input NOR gate	DIL16	SO16	IC07	27
74AC11004	hex inverter	DIL20	SO20L	IC07	27
74AC11008	quad 2-input AND gate	DIL16	SO16	IC07	27
74AC11010	triple 3-input NAND gate	DIL16	SO16	IC07	27
74AC11011	triple 3-input AND gate	DIL16	SO16	IC07	27
74AC11013	dual 4-input NAND Schmitt trigger	DIL14	SO14	IC07	27
74AC11014	hex inverter Schmitt trigger	DIL20	SO20L	IC07	27
74AC11020	dual 4-input NAND gate	DIL14	SO14	IC07	27
74AC11021	dual 4-input AND gate	DIL14	SO14	IC07	27
74AC11027	triple 3-input NOR gate	DIL16	SO16	IC07	27
74AC11030	8-input NAND gate	DIL14	SO14	IC07	27
74AC11032	quad 2-input OR gate	DIL16	SO16	IC07	27
74AC11034	hex non-inverter	DIL20	SO20L	IC07	27
74AC11074	dual D-type flip-flop with set and reset	DIL14	SO14	IC07	26
74AC11086	quad 2-input EXCLUSIVE-OR gate	DIL16	SO16	IC07	27
74AC11109	dual JK flip-flop with set and reset	DIL16	SO16	IC07	26
74AC11112	dual JK flip-flop with set and reset	DIL16	SO16	IC07	26
74AC11132	quad 2-input NAND Schmitt trigger	DIL16	SO16	IC07	27
74AC11138	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC07	26
74AC11139	dual 2-to-4 line decoder/demultiplexer	DIL16	SO16	IC07	26
74AC11151	8-input multiplexer	DIL16	SO16	IC07	27

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type number	description	package through-hole	package SMD	handbook	page IC5.
74AC11153	dual 4-input multiplexer	DIL16	SO16	IC07	27
74AC11157	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74AC11158	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74AC11160	synchr. preset BCD decade counter	DIL20	SO20L	IC07	26
74AC11161	synchr. preset 4-bit binary counter	DIL20	SO20L	IC07	26
74AC11162	synchr. preset BCD decade counter	DIL20	SO20L	IC07	26
74AC11163	synchr. preset 4-bit binary counter	DIL20	SO20L	IC07	26
74AC11174	hex D-type flip-flop with reset	DIL20	SO20L	IC07	26
74AC11175	quad D-type flip-flop with reset	DIL20	SO20L	IC07	26
74AC11190	asyn. pr. syn. BCD decade up/dn cntr	DIL20	SO20L	IC07	26
74AC11191	asyn. pr. syn. 4-bit binary up/dn cntr	DIL20	SO20L	IC07	26
74AC11194	4-bit bidir. universal shift register	DIL20	SO20L	IC07	27
74AC11238	3-to-8 line decoder/demultiplexer	DIL16	SO16	IC07	26
74AC11239	dual 2-to-4 line decoder/demultiplexer	DIL16	SO16	IC07	26
74AC11240	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74AC11241	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74AC11244	octal buffer/line driver	DIL24SK	SO24L	IC07	26
74AC11245	octal transceiver with direction pin	DIL24SK	SO24L	IC07	27
74AC11251	8-input multiplexer	DIL16	SO16	IC07	27
74AC11253	dual 4-input multiplexer	DIL16	SO16	IC07	27
74AC11257	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74AC11258	quad 2-input multiplexer	DIL20	SO20L	IC07	27
74AC11269	asyn. pr. 4-bit binary up/dn counter	DIL28SK	SO28L	IC07	26
74AC11273	octal D-type flip-flop with reset	DIL24SK	SO24L	IC07	26
74AC11280	9-bit odd/even parity generator/checker	DIL14	SO14	IC07	26
74AC11353	dual 4-input multiplexer	DIL16	SO16	IC07	27
74AC11373	octal D-type transparent latch	DIL24SK	SO24L	IC07	26
74AC11374	octal D-type flip-flop	DIL24SK	SO24L	IC07	26
74AC11377	octal D-type flip-flop with enable	DIL24SK	SO24L	IC07	26
74AC11378	hex D-type flip-flop with enable	DIL20	SO20L	IC07	26
74AC11379	quad D-type flip-flop with data enable	DIL20	SO20L	IC07	26
74AC11470	octal transceiver/reg. with dual enable	DIL28SK	SO28L	IC07	27
74AC11471	octal transceiver/reg. with dual enable	DIL28SK	SO28L	IC07	27
74AC11520	8-bit identity comp. with input pull-up	DIL20	SO20L	IC07	26
74AC11521	8-bit identity comparator	DIL20	SO20L	IC07	26
74AC11533	octal D-type transparent latch	DIL24SK	SO24L	IC07	26
74AC11534	octal D-type flip-flop	DIL24SK	SO24L	IC07	26
74AC11579	8-bit bin. up/down counter common I/O	DIL24SK	SO24L	IC07	26
74AC11620	octal transceiver with dual enable	DIL24SK	SO24L	IC07	28
74AC11623	octal transceiver with dual enable	DIL24SK	SO24L	IC07	28
74AC11640	octal transceiver with direction pin	DIL24SK	SO24L	IC07	28
74AC11643	octal transceiver	DIL24SK	SO24L	IC07	28
74AC11646	octal transc./reg. with direction pin	DIL28SK	SO28L	IC07	28
74AC11648	octal transc./reg. with direction pin	DIL28SK	SO28L	IC07	28
74AC11651	octal transc./reg. with dual enable	DIL28SK	SO28L	IC07	28
74AC11652	octal transc./reg. with dual enable	DIL28SK	SO28L	IC07	28
74AC11656	oct. buf./line dr. 9-bit par. gen./check	DIL28SK	SO28L	IC07	26
74AC11657	oct. transc. with 8-bit par. check/gen.	DIL28SK	SO28L	IC07	28
74AC11810	quad 2-input EXCLUSIVE-NOR gate	DIL16	SO16	IC07	27
74AC11821	10-wide D-type flip-flop	DIL28SK	SO28L	IC07	26
74AC11827	10-wide buffer/line driver	DIL28SK	SO28L	IC07	26
74AC11828	10-wide buffer/line driver	DIL28SK	SO28L	IC07	26
74AC11873	dual D-type transparent latch with reset	DIL28SK	SO28L	IC07	26
74AC11874	dual D-type 4-bit flip-flop with reset	DIL28SK	SO28L	IC07	26
74AC11898	10-bit ser.-in par.-out shift register	DIL20	SO20L	IC07	27
83C852	secured 8-bit CMOS microcontroller		PADS6	DS-IC20	56

CMOS HE4000B FAMILY SPECIFICATIONS

The LOCMOS HE4000B range is a fully buffered digital integrated circuit family which meets the Jedec-B specifications. The members of this family are plug-in replacements for the well-known CMOS 4000 and 14500 ranges.

The HE family has the same advantages as conventional CMOS circuits, plus the additional LOCMOS advantages.

Advantages of CMOS

- low power dissipation - typically 10 nW per gate (static)
- wide operating supply voltage range
- wide operating temperature ranges:
  −40 to +85 °C for standard temperature range (HEF)
  −55 to +125 °C for extended temperature range (HEC)
- high DC fan-out
- inputs and outputs are protected against electrostatic voltages

In addition to these, the **LOCMOS HE4000B** range has:

- buffered outputs on **all** circuits
- higher speed
- higher packing density — essential for MSI/LSI
- excellent noise immunity

Recommended supply voltage range 3 to 15 V.

LOCMOS means Local Oxidation Complementary MOS

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, handling precautions should be taken into account.

Type number designation

Type numbers have a suffix which signifies the type of package and burn-in option.

HEx4xxxxxxx complete type number which can be split as follows:

HEx 4xxx xx x x

B = burn-in

P = plastic DIL
T = plastic mini-pack (SO)
D = ceramic (cerdip) DIL
U = uncased chip

B = buffered
UB = unbuffered
V = limited operating voltage

= device number (up to 5 digits)

F = T_{amb} −40 to +85 °C
C = T_{amb} −55 to +125 °C

CMOS HE4000B FAMILY SPECIFICATIONS (cont.)

The HE family is designed with standardized output drive characteristics which, combined with relative intensitivity to output capacitance loading, simplify system design.

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Supply voltage range	V_{DD} −0,5 to +18 V
Voltage on any input	V_I −0,5 to (V_{DD} + 0,5) V
DC current into any input or output	±I max. 10 mA
Power dissipation per package:	
HEF (plastic and ceramic DIL)	
T_{amb} = −40 to +70 °C	P_{tot} max. 500 mW
T_{amb} = +70 to +85 °C	derate linearly by 8 mW/K
HEF (plastic SO mini-pack)	
T_{amb} = −40 to +70 °C	P_{tot} max. 400 mW
T_{amb} = +70 to +85 °C	derate linearly by 6 mW/K
HEC (ceramic DIL)	
T_{amb} = −55 to +70 °C	P_{tot} max. 500 mW
T_{amb} = +70 to +125 °C	derate linearly by 8 mW/K
Power dissipation per output	P max. 100 mW
Storage temperature range	T_{stg} −65 to +150 °C
Operating ambient temperature range	
HEF	T_{amb} −40 to +85 °C
HEC	T_{amb} −55 to +125 °C

DC family characteristics for HEF at V_{SS} = 0 V

parameter	symbol	T_{amb} = −40 °C		T_{amb} = +25 °C		T_{amb} = +85 °C		V_{DD}	conditions
		min.	max.	min.	max.	min.	max.	V	
Quiescent device current for gates	I_{DD} (µA)	–	1.0	–	1.0	–	7.5	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	2.0	–	2.0	–	15.0	10	
		–	4.0	–	4.0	–	30.0	15	
Quiescent device current for buffers and flip–flops	I_{DD} (µA)	–	4.0	–	4.0	–	30	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	8.0	–	8.0	–	60	10	
		–	16.0	–	16.0	–	120	15	
Quiescent device current for MSI	I_{DD} (µA)	–	20	–	20	–	150	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	40	–	40	–	300	10	
		–	80	–	80	–	600	15	
Quiescent device current for LSI	I_{DD} (µA)	–	50	–	50	–	375	5	all valid input combinations $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	100	–	100	–	750	10	
		–	200	–	200	–	1500	15	
Output voltage LOW $\|I_O\| < 1$ µA	V_{OL} (V)	–	0.05	–	0.05	–	0.05	5	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	10	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	15	$V_I = V_{SS}$ or V_{DD}
Output voltage HIGH $\|I_O\| < 1$ µA	V_{OH} (V)	4.95	–	4.95	–	4.95	–	5	$V_I = V_{SS}$ or V_{DD}
		9.95	–	9.95	–	9.95	–	10	$V_I = V_{SS}$ or V_{DD}
		14.95	–	14.95	–	14.95	–	15	$V_I = V_{SS}$ or V_{DD}
Input voltage LOW $\|I_O\| < 1$ µA (buffered stages only)	V_{IL} (V)	–	1.5	–	1.5	–	1.5	5	V_O = 0.5 or 4.5V
		–	3.0	–	3.0	–	3.0	10	V_O = 1.0 or 9.0V
		–	4.0	–	4.0	–	4.0	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\|I_O\| < 1$ µA (buffered stages only)	V_{IH} (V)	3.5	–	3.5	–	3.5	–	5	V_O = 0.5 or 4.5V
		7.0	–	7.0	–	7.0	–	10	V_O = 1.0 or 9.0V
		11.0	–	11.0	–	11.0	–	15	V_O = 1.5 or 13.5V
Input voltage LOW $\|I_O\| < 1$ µA (unbuffered stages only)	V_{IL} (V)	–	1.0	–	1.0	–	1.0	5	V_O = 0.5 or 4.5V
		–	2.0	–	2.0	–	2.0	10	V_O = 1.0 or 9V
		–	2.5	–	2.5	–	2.5	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\|I_O\| < 1$ µA (unbuffered stages only)	V_{IH} (V)	4.0	–	4.0	–	4.0	–	5	V_O = 0.5 or 4.5V
		8.0	–	8.0	–	8.0	–	10	V_O = 1.0 or 9.0V
		12.5	–	12.5	–	12.5	–	15	V_O = 1.5 or 13.5V
Output (sink) current LOW	I_{OL} (mA)	0.52	–	0.44	–	0.36	–	5	V_O=0.4; V_I=0/5V
		1.3	–	1.1	–	0.9	–	10	V_O=0.5; V_I=0/10V
		3.6	–	3.0	–	2.4	–	15	V_O=1.5; V_I=0/15V
Output (source) current HIGH	$-I_{OH}$ (mA)	0.52	–	0.44	–	0.36	–	5	V_O=4.6; V_I=0/5V
		1.3	–	1.1	–	0.9	–	10	V_O=9.5; V_I=0/10V
		3.6	–	3.0	–	2.4	–	15	V_O=13.5; V_I=0/15V
Output (source) current (HIGH)	$-I_{OH}$ (mA)	1.7	–	1.4	–	1.1	–	5	V_O=2.5; V_I=0/5V
Input leakage current	$\pm I_{IN}$ (µA)	–	0.3	–	0.3	–	1.0	15	V_I = 0 or 15 V
3-state output leakage current HIGH	I_{OZH} (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{DD}
3-state output leakage current LOW	$-I_{OZL}$ (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{SS}
Input capacitance per unit load	C_I (pF)	–	–	–	7.5	–	–	–	digital inputs

DC family characteristics for HEC at V_{SS} = 0 V

parameter	symbol	T_{amb} = −55 °C min.	T_{amb} = −55 °C max.	T_{amb} = +25 °C min.	T_{amb} = +25 °C max.	T_{amb} = +125 °C min.	T_{amb} = +125 °C max.	V_{DD} V	conditions
Quiescent device current for gates	I_{DD} (µA)	–	0.25	–	0.25	–	7.5	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	0.5	–	0.5	–	15.0	10	
		–	1.0	–	1.0	–	30.0	15	
Quiescent device current for buffers and flip–flops	I_{DD} (µA)	–	1.0	–	1.0	–	30	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	2.0	–	2.0	–	60	10	
		–	4.0	–	4.0	–	120	15	
Quiescent device current for MSI	I_{DD} (µA)	–	5.0	–	5.0	–	150	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	10.0	–	10.0	–	300	10	
		–	20.0	–	20.0	–	600	15	
Quiescent device current for LSI	I_{DD} (µA)	–	15.0	–	15.0	–	375	5	all valid input combinations $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	25.0	–	25.0	–	750	10	
		–	50.0	–	50.0	–	1500	15	
Output voltage LOW $\|I_O\| < 1$ µA	V_{OL} (V)	–	0.05	–	0.05	–	0.05	5	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	10	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	15	$V_I = V_{SS}$ or V_{DD}
Output voltage HIGH $\|I_O\| < 1$ µA	V_{OH} (V)	4.95	–	4.95	–	4.95	–	5	$V_I = V_{SS}$ or V_{DD}
		9.95	–	9.95	–	9.95	–	10	$V_I = V_{SS}$ or V_{DD}
		14.95	–	14.95	–	14.95	–	15	$V_I = V_{SS}$ or V_{DD}
Input voltage LOW $\|I_O\| < 1$ µA (buffered stages only)	V_{IL} (V)	–	1.5	–	1.5	–	1.5	5	V_O = 0.5 or 4.5V
		–	3.0	–	3.0	–	3.0	10	V_O = 1.0 or 9.0V
		–	4.0	–	4.0	–	4.0	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\|I_O\| < 1$ µA (buffered stages only)	V_{IH} (V)	3.5	–	3.5	–	3.5	–	5	V_O = 0.5 or 4.5V
		7.0	–	7.0	–	7.0	–	10	V_O = 1.0 or 9.0V
		11.0	–	11.0	–	11.0	–	15	V_O = 1.5 or 13.5V
Input voltage LOW $\|I_O\| < 1$ µA (unbuffered stages only)	V_{IL} (V)	–	1.0	–	1.0	–	1.0	5	V_O = 0.5 or 4.5V
		–	2.0	–	2.0	–	2.0	10	V_O = 1.0 or 9V
		–	2.5	–	2.5	–	2.5	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\|I_O\| < 1$ µA (unbuffered stages only)	V_{IH} (V)	4.0	–	4.0	–	4.0	–	5	V_O = 0.5 or 4.5V
		8.0	–	8.0	–	8.0	–	10	V_O = 1.0 or 9.0V
		12.5	–	12.5	–	12.5	–	15	V_O = 1.5 or 13.5V
Output (sink) current LOW	I_{OL} (mA)	0.64	–	0.5	–	0.36	–	5	V_O=0.4; V_I=0/5V
		1.6	–	1.3	–	0.9	–	10	V_O=0.5; V_I=0/10V
		4.2	–	3.4	–	2.4	–	15	V_O=1.5; V_I=0/15V
Output (source) current HIGH	$-I_{OH}$ (mA)	0.64	–	0.5	–	0.36	–	5	V_O=4.6; V_I=0/5V
		1.6	–	1.3	–	0.9	–	10	V_O=9.5; V_I=0/10V
		4.2	–	3.4	–	2.4	–	15	V_O=13.5; V_I=0/15V
Output (source) current (HIGH)	$-I_{OH}$ (mA)	1.7	–	1.4	–	1.1	–	5	V_O=2.5; V_I=0/5V
Input leakage current	$\pm I_{IN}$ (µA)	–	0.3	–	0.3	–	1.0	15	V_I = 0 or 15 V
3–state output leakage current HIGH	I_{OZH} (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{DD}
3–state output leakage current LOW	$-I_{OZL}$ (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{SS}
Input capacitance per unit load	C_I (pF)	–	–	–	7.5	–	–	–	digital inputs

GENERAL PURPOSE

CMOS HE4000B SERIES
Logic

HE4000 SERIES		HEF	HEC
ARITHMETIC FUNCTIONS			
4008B	4-bit binary full adder	○	
4531B	13-input parity checker/generator	○	
BUFFERS			
4007UB	dual complementary pair and inverter	○	○
4041B	quadruple true/complement buffer	○	
4049B	hex inverting buffers	○	○
4050B	hex non-inverting buffers	○	○
4502B	strobed hex inverter/buffer	○	
40097B	3-state hex non-inverting buffer	○	○
40098B	3-state hex inverting buffer	○	○
40240B	octuple buffers with 3-state outputs	○	
40244B	octal buffers with 3-state outputs	○	
COMPARATORS			
4585B	4-bit magnitude comparator	○	○
COUNTERS			
4017B	5-stage Johnson counter	○	○
4018B	presettable divide-by-n counter	○	
4020B	14-stage binary counter	○	○
4022B	4-stage divide-by-8 Johnson counter	○	
4024B	7-stage binary counter	○	○
4029B	synchronous up/down counter, binary/decade counter	○	
4040B	12-stage binary counter	○	○
4059B	programmable divide-by-n counter	○	
4060B	14-stage ripple-carry binary counter/divider and oscillator	○	
4510B	BCD up/down counter	○	○
4516B	binary up/down counter	○	
4518B	dual BCD counter	○	
4520B	dual binary counter	○	○
4521B	24-stage frequency divider	○	
4522B	programmable 4-bit BCD down counter	○	
4526B	programmable 4-bit binary down counter	○	
4534B	real time 5-decade counter	○	
4737B	quadruple static decade counter	○	
4737V	quadruple static decade counter	○	
4751V	universal divider	○	○
40160B	4-bit synchronous decade counter; asynchronous reset	○	
40161B	4-bit synchronous binary counter; asynchronous reset	○	
40162B	4-bit synchronous decade counter; synchronous reset	○	
40163B	4-bit synchronous binary counter; synchronous reset	○	
40192B	4-bit up/down decade counter	○	
40193B	4-bit up/down binary counter	○	
DECODERS/DEMULTIPLEXERS			
4028B	1-of-10 decoder	○	
4511B	BCD to 7-segment latch/decoder/driver	○	○
4514B	1-of-16 decoder/demultiplexer with input latches	○	
4515B	1-of-16 decoder/demultiplexer with input latches	○	
4543B	BCD to 7-segment latch/decoder/driver	○	
4555B	dual 1-of-4 decoder/demultiplexer	○	
4556B	dual 1-of-4 decoder/demultiplexer	○	○

HE4000 SERIES		HEF	HEC
DRIVERS			
4511B	BCD to 7-segment latch/decoder/driver	○	○
4543B	BCD to 7-segment latch/decoder/driver	○	
ENCODERS			
4532B	8-input priority encoder	○	
D-type FLIP-FLOPS			
4013B	dual D-type flip-flop	○	○
40174B	hex D-type flip-flop	○	○
40175B	quadruple D-type flip-flop	○	○
40374B	octal D-type flip-flop with 3-state outputs	○	
JK FLIP-FLOPS			
4027B	dual JK flip-flop	○	○
AND GATES			
4073B	triple 3-input AND gate	○	○
4081B	quadruple 2-input AND gate	○	○
4082B	dual 4-input AND gate	○	
Complex GATES			
4085B	dual 2-wide 2-input AND-OR-invert gate	○	
4086B	4-wide 2-input AND-OR-invert gate	○	
EXCLUSIVE-OR GATES			
4030B	quadruple EXCLUSIVE-OR gate	○	○
4070B	quadruple EXCLUSIVE-OR gate	○	○
EXCLUSIVE-NOR GATES			
4077B	quadruple EXCLUSIVE-NOR gate	○	
NAND GATES			
4011B	quadruple 2-input NAND gate	○	○
4011UB	quadruple 2-input NAND gate; unbuffered	○	
4012B	dual 4-input NAND gate	○	○
4023B	triple 3-input NAND gate	○	○
4068B	8-input NAND gate	○	○
NOR GATES			
4000B	dual 3-input NOR gate and inverter	○	
4001B	quadruple 2-input NOR gate	○	○
4001UB	quadruple 2-input NOR gate; unbuffered	○	
4002B	dual 4-input NOR gate	○	○
4025B	triple 3-input NOR gate	○	○
4078B	8-input NOR gate	○	
OR GATES			
4071B	quadruple 2-input OR gate	○	○
4072B	dual 4-input OR gate	○	
4075B	triple 3-input OR gate	○	
INVERTERS			
4007UB	dual complementary pair and inverter	○	○
4069UB	hex inverter	○	○
7069UB	hex inverter; open drain	○	

GENERAL PURPOSE

CMOS HE4000B SERIES
Logic

HE4000 SERIES		HEF	HEC
LATCHES			
4042B	quadruple D-latch	○	○
4043B	quadruple R/S latch with 3-state outputs	○	
4044B	quadruple R/S latch with 3-state outputs	○	
4508B	dual 4-bit latch	○	
4511B	BCD to 7-segment latch/decoder/driver	○	
4543B	BCD to 7-segment latch/decoder/driver	○	
4724B	8-bit addressable latch	○	
40373B	octal transparent latch with 3-state output	○	
MEMORIES			
4505B	64-bit, 1-bit per word static read/write RAM	○	○
4720B	256-bit, 1-bit per word RAM	○	
4720V	256-bit, 1-bit per word RAM	○	
MULTIPLEXERS/DEMULTIPLEXERS			
4019B	quadruple 2-input multiplexer	○	○
4051B	8-channel analog multiplexer/demultiplexer	○	○
4052B	dual 4-channel analog multiplexer/demultiplexer	○	
4053B	triple 2-channel analog multiplexer/demultiplexer	○	
4067B	16-channel analog multiplexer/demultiplexer	○	
4512B	8-input multiplexer with 3-state output	○	○
4519B	quadruple 2-input multiplexer	○	○
4539B	dual 4-input multiplexer	○	○
MULTIVIBRATORS			
4047B	monostable/astable multivibrator	○	○
4528B	dual monostable multivibrator	○	○
4538B	dual precision monostable multivibrator	○	
REGISTERS			
4006B	18-stage static shift register	○	
4014B	8-bit static shift register	○	○
4015B	dual 4-bit static shift register	○	○
4021B	8-bit static shift register	○	
4031B	64-stage static shift register	○	
4035B	4-bit universal shift register	○	○
4076B	quadruple D-type register with 3-state outputs	○	
4094B	8-stage shift-and-store bus register	○	○
4517B	dual 64-bit static shift register	○	
4557B	1-to-64 bit variable length shift register	○	○
4731B	quadruple 64-bit static shift register	○	
4731V	quadruple 64-bit static shift register	○	
40194B	4-bit bidirectional universal shift register	○	○
40195B	4-bit universal shift register	○	○
SCHMITT TRIGGERS			
4093B	quadruple 2-input NAND Schmitt trigger	○	○
40106B	hex inverting Schmitt trigger	○	
SPECIAL FUNCTIONS			
4046B	phase-locked loop	○	
4104B	quadruple low-to-high voltage translator with 3-state outputs	○	
4527B	BCD rate multiplier	○	
4738V	IEC/IEEE bus interface	○	
4750V	frequency synthesizer	○	○
4752V	AC motor control circuit	○	

HE4000 SERIES		HEF	HEC
4754V	18-element bar graph LCD driver	○	
4755V	transceiver for serial data communication	○	
SWITCHES			
4016B	quadruple bilateral switches	○	○
4066B	quadruple bilateral switches	○	○
TIMING CIRCUITS			
4541B	programmable timer	○	○
4753B	universal timer module	○	
4753V	universal timer module	○	
TRANCEIVERS			
40245B	octuple bus transceiver with 3-state outputs	○	

HCMOS PC74 FAMILY SPECIFICATIONS

General

These specifications cover the electrical ratings and characteristics that are common to the entire HCMOS PC74 family, unless otherwise specified in the data sheet of an individual device.

Introduction

The HCMOS family of logic ICs is manufactured using a self-aligning 3 μm polycrystalline silicon-gate CMOS process combined with local oxidation of silicon (LOCOS). HCMOS ICs have the low power consumption, high immunity to input noise and wide operating temperature range of earlier silicon-gate CMOS circuits together with the high-speed and drive capability of bipolar, low-power Schottky TTL (LSTTL). They are also immune to latch-up and all types are available in DIL packages and in space-saving SO packages.

Many HCMOS circuits are pin-compatible with existing 54/74 LSTTL and HE4000B CMOS logic ICs. HCT types are ideal replacements for LSTTL. HCT types can also interface between TTL and CMOS ICs.

Three types of HCMOS ICs are available:

74HC	CMOS input switching levels 30% V_{CC} and 70% V_{CC} (typical switching threshold 50% V_{CC}), supply voltage 2 to 6 V
74HCT	TTL input switching levels 0.8 V and 2 V (typical switching threshold 28% V_{CC}), supply voltage 5 V ±10%
74HCU	CMOS input switching levels 20% V_{CC} and 80% V_{CC} (typical switching threshold 50% V_{CC}), supply voltage 2 to 6 V; unbuffered to allow operation in the linear mode

The HCMOS family also includes several complex circuits for switching or multiplexing analog signals. These circuits have low crosstalk and feedthrough, and a very large frequency bandwidth. There are also two FIFOs and two PLLs in the HCMOS range, of which one (HC/HCT297) is a fully digital type.

Handling MOS devices

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, it is desirable to take handling precautions into account.

HCMOS features

- Very low power dissipation
- The switching levels of 74HC types are 30% and 70% of V_{CC}
- DC noise margin of 74HC types three times that of TTL ICs
- Logic output levels 0.1 V and V_{CC} − 0.1 V
- All types, except 74HCU are fully buffered
- Typical gate propogation delay of 8 ns
- Can operate up to 60 MHz (typical)
- Fanout capability of 10 LSTTL loads (4 mA); this is increased to 15 LSTTL loads (6 mA) for types with bus-driver outputs
- Wide supply voltage range
- Latch-up free
- Inputs protected against electrostatic discharge
- Functions and pinning identical to most popular LSTTL and CMOS HE4000B families
- Analog switching types operating up to 10 V
- Symmetrical output sourcing and sinking currents and equal output rise and fall times
- All types available in plastic SO packages for surface mounting and plastic DIL packages
- Choice of operating temperature ranage: −40 to +85 °C or −40 to +125 °C
- Approved to JEDEC standard No. 7A

Type number designation

Basic family:

PC74xxxxxxxxxx complete type number which can be split as follows:

PC74 xxx xxxxx xx

package code:
P = plastic DIL;
T = plastic mini-pack (SO)
PB = plastic DIL; burn-in

= device number (up to 5 digits)

HC = CMOS input switching levels;
supply voltage range 2 to 6 V;
fully buffered

HCT = TTL input switching levels;
supply voltage range 5 V ±10%;
fully buffered

HCU = CMOS input switching levels;
supply voltage range 2 to 6 V;
unbuffered (single-stage devices)

PC74 = commercial (−40 °C to 85 °C)
and extended (−40 °C to +125 °C)
operating temperature range

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+7	V
DC input diode current	$V_I < -0.5$ V $V_I > V_{CC}+0.5$ V	$\pm I_{IK}$	–	20	mA
DC output diode current	$V_I < -0.5$ V $V_I > V_{CC}+0.5$ V	$\pm I_{OK}$	–	20	mA
DC output source or sink current	$-0.5V < V_O < V_{CC}+0.5$ V				
	standard outputs bus driver outputs	$\pm I_O$ $\pm I_O$	– –	25 35	mA mA
DC V_{CC} or GND current	standard outputs	$\pm I_{CC}$; $\pm I_{GND}$	–	50	mA
	bus driver outputs	$\pm I_{CC}$; $\pm I_{GND}$	–	70	mA
Storage temperature range		T_{stg}	−65	+150	°C
Power dissipation per package	for temperature range: −40 to +125 °C; PC74HC/HCT/HCU				
Plastic DIL	above +70 °C derate linearly by 12 mW/K	P_{tot}	–	750	mW
Plastic mini-pack (SO)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW

Recommended operating conditions; Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	typ.	max.	unit	conditions
DC supply voltage range PC74HC/HCU PC74HCT	 V_{CC} V_{CC}	 2.0 4.5	 5.0 5.0	 6.0 5.5	 V V	
DC input voltage range	V_I	0	–	V_{CC}	V	
DC output voltage range	V_O	0	–	V_{CC}	V	
Operating ambient temperature range PC74HC/HCT/HCU PC74HC/HCT/HCU	 T_{amb} T_{amb}	 −40 −40	 – –	 +85 +125	 °C °C	 standard extended
Input rise and fall times exept for Schmitt trigger inputs	 t_r; t_f	– – –	– 6.0 –	1000 500 400	ns ns ns	$V_{CC} = 2.0$ V $V_{CC} = 4.5$ V $V_{CC} = 6.0$ V

DC family characteristics, PC74HC

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC}	symbol	T_{amb} (°C)							unit	conditions	
			+25			−40 to +85		−40 to +125				
	V		min.	typ.	max.	min.	max.	min.	max.		V_I	other
HIGH level input voltage	2.0	V_{IH}	1.5	1.2	–	1.5	–	1.5	–	V		
	4.5		3.15	2.4	–	3.15	–	3.15	–	V		
	6.0		4.2	3.2	–	4.2	–	4.2	–	V		
LOW level input voltage	2.0	V_{IL}	–	0.8	0.5	–	0.5	–	0.5	V		
	4.5		–	2.1	1.35	–	1.35	–	1.35	V		
	6.0		–	2.8	1.8	–	1.8	–	1.8	V		
HIGH level output voltage all outputs	2.0	V_{OH}	1.9	2.0	–	1.9	–	1.9	–	V	V_{IH} or V_{IL}	$-I_O = 20\ \mu A$
	4.5		4.4	4.5	–	4.4	–	4.4	–	V		$-I_O = 20\ \mu A$
	6.0		5.9	6.0	–	5.9	–	5.9	–	V		$-I_O = 20\ \mu A$
HIGH level output voltage standard	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 4.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V		$-I_O = 5.2$ mA
HIGH level output voltage bus driver	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 6.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V		$-I_O = 7.8$ mA
LOW level output voltage all outputs	2.0	V_{OL}	–	0	0.1	–	0.1	–	0.1	V	V_{IH} or V_{IL}	$I_O = 20\ \mu A$
	4.5		–	0	0.1	–	0.1	–	0.1	V		$I_O = 20\ \mu A$
	6.0		–	0	0.1	–	0.1	–	0.1	V		$I_O = 20\ \mu A$
LOW level output voltage standard	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 4.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V		$I_O = 5.2$ mA
LOW level output voltage bus driver	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 6.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V		$I_O = 7.8$ mA
Input leakage current	6.0	$\pm I_I$	–	–	0.1	–	1.0	–	1.0	μA	V_{CC} or GND	
3-state OFF-state current	6.0	$\pm I_{OZ}$	–	–	0.5	–	5.0	–	10.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND;
Quiescent supply current												
SSI	6.0	I_{CC}	–	–	2	–	20	–	40	μA	V_{CC} or GND	$I_O = 0$
flip-flops	6.0	I_{CC}	–	–	4	–	40	–	80	μA		$I_O = 0$
MSI	6.0	I_{CC}	–	–	8	–	80	–	160	μA		$I_O = 0$
LSI	6.0	I_{CC}	–	–	50	–	500	–	1000	μA		$I_O = 0$

DC family characteristics, PC74HCU

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) +25 min.	+25 typ.	+25 max.	−40 to +85 min.	−40 to +85 max.	−40 to +125 min.	−40 to +125 max.	unit	conditions V_I	conditions other
HIGH level input voltage	2.0	V_{IH}	1.7	1.4	–	1.7	–	1.7	–	V		
	4.5		3.6	2.6	–	3.6	–	3.6	–	V		
	6.0		4.8	3.4	–	4.8	–	4.8	–	V		
LOW level input voltage	2.0	V_{IL}	–	0.6	0.3	–	0.3	–	0.3	V		
	4.5		–	1.9	0.9	–	0.9	–	0.9	V		
	6.0		–	2.6	1.2	–	1.2	–	1.2	V		
HIGH level output voltage	2.0	V_{OH}	1.8	2.0	–	1.8	–	1.8	–	V	V_{IH}	$-I_O = 20\ \mu A$
	4.5		4.0	4.5	–	4.0	–	4.0	–	V	or	$-I_O = 20\ \mu A$
	6.0		5.5	6.0	–	5.5	–	5.5			V_{IL}	$-I_O = 20\ \mu A$
HIGH level output voltage	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{CC}	$-I_O = 4.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V	or	$-I_O = 5.2$ mA
											GND	
LOW level output voltage	2.0	V_{OL}	–	0	0.2	–	0.2	–	0.2	V	V_{IH}	$I_O = 20\ \mu A$
	4.5		–	0	0.5	–	0.5	–	0.5	V	or	$I_O = 20\ \mu A$
	6.0		–	0	0.5	–	0.5	–	0.5	V	V_{IL}	$I_O = 20\ \mu A$
LOW level output voltage	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{CC}	$I_O = 4.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V	or	$I_O = 5.2$ mA
											GND	
Input leakage current	6.0	$\pm I_I$	–	–	0.1	–	1.0	–	1.0	µA	V_{CC} or GND	
Quiescent supply current **SSI**	6.0	I_{CC}	–	–	2.0	–	20.0	–	40.0	µA	V_{CC} or GND	$I_O = 0$

DC family characteristics, PC74HCT

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) +25 min.	+25 typ.	+25 max.	−40 to +85 min.	−40 to +85 max.	−40 to +125 min.	−40 to +125 max.	unit	conditions V_I	conditions other
HIGH level input voltage	4.5 - 5.5	V_{IH}	2.0	1.6	−	2.0	−	2.0	−	V		
LOW level input voltage	4.5 - 5.5	V_{IL}	−	1.2	0.8	−	0.8	−	0.8	V		
HIGH level output voltage all outputs	4.5	V_{OH}	4.4	4.5	−	4.4	−	4.4	−	V	V_{IH} or V_{IL}	$-I_O = 20$ μA
HIGH level output voltage standard	4.5	V_{OH}	3.98	4.32	−	3.84	−	3.7	−	V	V_{IH} or V_{IL}	$-I_O = 4.0$ mA
HIGH level output voltage bus driver	4.5	V_{OH}	3.98	4.32	−	3.84	−	3.7	−	V	V_{IH} or V_{IL}	$-I_O = 6.0$ mA
LOW level output voltage all outputs	4.5	V_{OL}	−	0	0.1	−	0.1	−	0.1	V	V_{IH} or V_{IL}	$I_O = 20$ μA
LOW level output voltage standard	4.5	V_{OL}	−	0.15	0.26	−	0.33	−	0.4	V	V_{IH} or V_{IL}	$I_O = 4.0$ mA
LOW level output voltage bus driver	4.5	V_{OL}	−	0.16	0.26	−	0.33	−	0.4	V	V_{IH} or V_{IL}	$I_O = 6.0$ mA
Input leakage current	5.5	$\pm I_I$	−	−	0.1	−	1.0	−	1.0	μA	V_{CC} or GND	
3-state OFF-state current	5.5	$\pm I_{OZ}$	−	−	0.5	−	5.0	−	10.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND; per input pin; other pins at V_{CC} or GND; $I_O = 0$
Quiescent supply current												
SSI	5.5	I_{CC}	−	−	2	−	20	−	40	μA	V_{CC} or GND	$I_O = 0$
flip-flops	5.5	I_{CC}	−	−	4	−	40	−	80	μA		$I_O = 0$
MSI	5.5	I_{CC}	−	−	8	−	80	−	160	μA		$I_O = 0$
LSI	5.5	I_{CC}	−	−	50	−	500	−	1000	μA		$I_O = 0$
A.Q.S.C. (see note below)	4.5 - 5.5	ΔI_{CC}	−	100	360	−	450	−	490	μA	V_{CC} −2.1V	other inputs at V_{CC} or GND; $I_O = 0$

Note:
Additional quiescent supply current (A.Q.S.C.) per input pin for unit load coefficient is 1. This A.Q.S.C. is determined by the ΔI_{CC} unit load, which has to be multiplied by the unit load coefficient as given in the individual data sheets. For dual supply systems, the theroretical worst-case ($V_I = 2.4$ V; $V_{CC} = 5.5$ V) specification is: $\Delta I_{CC} = 0.65$ mA (typical) and 1.8 mA (maximum) across temperature.

AC family characteristics

GND = 0 V; C_L = 50 pF; $t_r = t_f$ = 6 ns

PC74HC

			T_{amb} (°C)							
	V_{CC}		+25			−40 to +85		−40 to +125		
parameter	V	symbol	min.	typ.	max.	min.	max.	min.	max.	unit
Output transition time standard outputs	2.0	t_{THL}/ t_{TLH}	–	19	75	–	95	–	110	ns
	4.5		–	7	15	–	19	–	22	ns
	6.0		–	6	13	–	16	–	19	ns
Output transition time bus driver outputs	2.0	t_{THL}/ T_{TLH}	–	14	60	–	75	–	90	ns
	4.5		–	5	12	–	15	–	18	ns
	6.0		–	4	10	–	13	–	15	ns

PC74HU

			T_{amb} (°C)							
	V_{CC}		+25			−40 to +85		−40 to +125		
parameter	V	symbol	min.	typ.	max.	min,	max.	min.	max.	unit
Output transition time	2.0	t_{THL}/ t_{TLH}	–	19	75	–	95	–	110	ns
	4.5		–	17	15	–	19	–	22	ns
	6.0		–	6	13	–	16	–	19	ns

PC74HCT

			T_{amb} (°C)							
	V_{CC}		+25			−40 to +85		−40 to +125		
parameter	V	symbol	min.	typ.	max.	min.	max.	min.	max.	unit
Output transition time standard outputs	4.5	t_{THL}/ t_{TLH}	–	7	15	–	19	–	22	ns
Output transition time bus driver outputs	4.5	t_{THL}/ T_{TLH}	–	5	12	–	15	–	18	ns

PC74 SERIES

		HC	HCT
ARITHMETIC FUNCTIONS			
181	4-bit arithmetic logic unit	○	○
182	look-ahead carry generator	○	○
280	9-bit odd/even parity generator/checker	○	○
283	4-bit binary full adder with fast carry	○	○
583	4-bit full adder with fast carry	○	○
7080	16-bit even/odd parity generator/checker	○	○
BUFFERS/LINE DRIVERS			
125	quad buffer/line driver; 3-state; output enable active LOW	○	○
126	quad buffer/line driver; 3-state; output enable active HIGH	○	○
240	octal buffer/line driver; 3-state; inverting	○	○
241	octal buffer/line driver; 3-state; output enable active low or HIGH	○	○
244	octal buffer/line driver; 3-state; output enable active LOW	○	○
365	hex buffer/line driver; 3-state	○	○
366	hex buffer/line driver; 3-state; inverting	○	○
367	hex buffer/line driver; 3-state	○	○
368	hex buffer/line driver; 3-state; inverting	○	○
540	octal buffer/line driver; 3-state; inverting	○	○
541	octal buffer/line driver; 3-state	○	○
7540	octal Schmitt trigger buffer/line driver; 3-state; inverting	○	○
7541	octal Schmitt trigger buffer/line driver; 3-state	○	○
9014	nine-wide Schmitt trigger buffer/line driver; inverting	○	○
9015	nine-wide Schmitt trigger buffer/line driver	○	○
9114	nine-wide Schmitt trigger buffer; open drain output; inverting	○	○
9115	nine-wide Schmitt trigger buffer; open drain output	○	○
COMPARATORS			
85	4-bit magnitude comparator	○	○
688	8-bit magnitude comparator	○	○
COUNTERS			
93	4-bit binary ripple counter	○	○
160	presettable synchronous BCD decade counter; asynchronous reset	○	○
161	presettable synchronous 4-bit binary counter; asynchronous reset	○	○
162	presettable synchronous BCD decade counter; synchronous reset	○	○
163	presettable synchronous 4-bit binary counter; synchronous reset	○	○
190	presettable synchronous BCD decade up/down counter	○	○
191	presettable synchronous 4-bit binary up/down counter	○	○
192	presettable synchronous BCD decade up/down counter	○	○
193	presettable synchronous 4-bit binary up/down counter	○	○
390	dual decade ripple counter	○	○
393	dual 4-bit binary ripple counter	○	○
4017	Johnson decade counter with 10 decoded outputs	○	○
4020	14-stage binary ripple counter	○	○
4024	7-stage binary ripple counter	○	○
4040	12-stage binary ripple counter	○	○
4059	programmable divide-by-n counter	○	○
4060	14-stage binary ripple counter with oscillator	○	○
4510	BCD up/down counter	○	○
4516	binary up/down counter	○	○
4518	dual synchronous BCD counter	○	○
4520	dual synchronous 4-bit binary counter	○	○
6323A	programmable ripple counter with oscillator; 3-state	○	○
40102	8-bit synchronous BCD down counter	○	○
40103	8-bit synchronous binary down counter	○	○

GENERAL PURPOSE

HCMOS PC74 SERIES
Logic

PC74 SERIES		HC	HCT
DECODERS/DEMULTIPLEXERS			
42	BCD to decimal decoder (1-of-10)	○	○
137	3-to-8 line decoder/demultiplexer with address latches	○	○
138	3-to-8 line decoder/demultiplexer; inverting	○	○
139	dual 2-to-4 line decoder/demultiplexer	○	○
154	4-to-16 line decoder/demultiplexer	○	○
237	3-to-8 line decoder/demultiplexer with address latches	○	○
238	3-to-8 line decoder/demultiplexer	○	○
4511	BCD to 7-segment latch/decoder/driver	○	○
4514	4-to-16 line decoder/demultiplexer with input latches	○	○
4515	4-to-16 line decoder/demultiplexer with input latches	○	○
DRIVERS			
4511	BCD to 7-segment latch/decoder/driver	○	○
4543	BCD-to-7 segment latch/decoder/driver for LCDs	○	○
ENCODERS			
147	10-to-4 line priority encoder	○	○
D-type FLIP-FLOPS			
74	dual D-type flip-flop with set and reset; positive edge-trigger	○	○
173	quad D-type flip-flop; positive-edge trigger; 3-state	○	○
174	hex D-type flip-flop with reset; positive-edge trigger	○	○
175	quad D-type flip-flop with reset; positive edge-trigger	○	○
273	octal D-type flip-flop with reset; positive edge-trigger	○	○
373	octal D-type transparent latch; 3-state	○	○
374	octal D-type flip-flop; positive-edge trigger; 3-state	○	○
377	octal D-type flip-flop with data enable; positive-edge trigger	○	○
533	octal D-type transparent latch; 3-state; inverting	○	○
534	octal D-type flip-flop; positive-edge trigger; 3-state; inverting	○	○
563	octal D-type transparent latch; 3-state; inverting; bus-oriented pin-out	○	○
564	octal D-type flip-flop; positive-edge trigger; 3-state; inverting; bus-oriented pin-out	○	○
573	octal D-type transparent latch; 3-state; bus-oriented pin-out	○	○
574	octal D-type flip-flop; positive-edge trigger; 3-state; bus-oriented pin-out	○	○
JK FLIP-FLOPS			
73	dual JK flip-flop with reset; negative-edge trigger; supply on centre pins	○	○
107	dual JK flip-flop with reset; negative-edge trigger	○	○
109	dual JK flip-flop with set and reset; positive-edge trigger	○	○
112	dual JK flip-flop with set and reset; negative edge-trigger	○	○
AND GATES			
08	quad 2-input AND gate	○	○
11	triple 3-input AND gate	○	○
21	dual 4-input AND gate	○	○
Complex GATES			
58	dual AND-OR gate	○	
EXCLUSIVE-OR GATES			
86	quad 2-input EXCLUSIVE-OR gate	○	○

PC74 SERIES		HC	HCT
EXCLUSIVE-NOR GATES			
7266	quad 2-input EXCLUSIVE-NOR gate	○	
NAND GATES			
00	quad 2-input NAND gate	○	○
03	quad 2-input NAND gate; open drain	○	○
10	triple 3-input NAND gate	○	○
20	dual 4-input NAND gate	○	○
30	8-input NAND gate	○	○
132	quad 2-input NAND Schmitt trigger	○	○
133	13-input NAND gate	○	○
NOR GATES			
02	quad 2-input NOR gate	○	○
27	triple 3-input NOR gate	○	○
4002	dual 4-input NOR gate	○	○
OR GATES			
32	quad 2-input OR gate	○	○
4075	triple 3-input OR gate	○	○
INVERTERS			
04	hex inverter (unbuffered)	○	○
LATCHES			
75	quad bistable transparent latch	○	○
259	8-bit addressable latch	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
LEVEL SHIFTERS			
4049	hex inverting HIGH-to-LOW level shifter	○	
4050	hex HIGH-to-LOW level shifter	○	
MULTIPLEXERS/DEMULTIPLEXERS			
151	8-input multiplexer	○	○
153	dual 4-input multiplexer	○	○
157	quad 2-input multiplexer	○	○
158	quad 2-input multiplexer; inverting	○	○
251	8-input multiplexer; 3-state	○	○
253	dual 4-input multiplexer; 3-state	○	○
257	quad 2-input multiplexer; 3-state	○	○
258	quad 2-input multiplexer; 3-state; inverting	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
356	8-input multiplexer/register; 3-state	○	○
4051	8-channel analog multiplexer/demultiplexer	○	○
4052	dual 4-channel analog multiplexer/demultiplexer	○	○
4053	triple 2-channel analog multiplexer/demultiplexer	○	○
4067	16-channel analog multiplexer/demultiplexer	○	○
4351	8-channel analog multiplexer/demultiplexer with latch	○	○
4352	dual 4-channel analog multiplexer/demultiplexer with latch	○	○
4353	triple 2-channel analog multiplexer/demultiplexer with latch	○	○
MULTIVIBRATORS			
123	dual retriggerable monostable multivibrator with reset	○	○
221	dual non-retriggerable monostable multivibrator with reset	○	○

PC74 SERIES		HC	HCT
423	dual retriggerable monostable multivibrator with reset	○	○
4538	dual retriggerable precision monostable multivibrator	○	○
5555	programmable delay timer with oscillator	○	○
REGISTERS			
164	8-bit serial-in/parallel-out shift register	○	○
165	8-bit parallel-in/serial-out shift register	○	○
166	8-bit parallel-in/serial-out shift register; with reset	○	○
194	4-bit bidirectional universal shift register	○	○
195	4-bit parallel access shift register	○	○
299	8-bit universal shift register; 3-state	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
356	8-input multiplexer/register; 3-state	○	○
594	8-bit shifi register with output register	○	○
595	8-bit serial-in/serial or parallel-out shift register with output latches; 3-state	○	○
597	8-bit shift register with input latches	○	○
670	4 x 4 register file; 3-state	○	○
4015	dual 4-bit serial-in/parallel-out shift register	○	○
4094	8-stage shift-and-store bus register	○	○
7030	9-bit x 64-word FIFO register; 3-state	○	○
7403	4-bit x 64-word FIFO register; 3-state	○	○
7404	5-bit x 64-word FIFO register; 3-state	○	○
7597	8-bit shift register with input latches	○	○
7731	quad 64-bit static shift register	○	○
40104	4-bit bidirectional universal shift register; 3-state	○	○
40105	4-bit x 16 word FIFO register	○	○
SCHMITT TRIGGERS			
14	hex inverting Schmitt trigger	○	○
132	quad 2-input NAND Schmitt trigger	○	○
7245	octal bus Schmitt trigger tranceiver; 3-state	○	○
7540	octal Schmitt trigger buffer/line driver; 3-state; inverting	○	○
7541	octal Schmitt trigger buffer/line driver; 3-state	○	○
9014	nine-wide Schmitt trigger buffer/line driver; inverting	○	○
9015	nine-wide Schmitt trigger buffer/line driver	○	○
9114	nine-wide Schmitt trigger buffer; open drain output; inverting	○	○
9115	nine-wide Schmitt trigger buffer; open drain output	○	○
SPECIAL FUNCTIONS			
297	digital phase-locked-loop filter	○	○
4046A	phase-locked loop with VCO	○	○
7046A	PLL with lock detector	○	○
SWITCHES			
4016	quad bilateral switches (uncompensated switches)	○	○
4066	quad bilateral switches	○	○
4316	quad bilateral switches; separate analog ground	○	○
TRANSCEIVERS			
242	quad bus transceiver; 3-state; inverting	○	○
243	quad bus transceiver; 3-state	○	○
245	octal bus transceiver; 3-state	○	○
640	octal bus transceiver; 3-state; inverting	○	○
643	octal bus transceiver; 3-state; true/inverting	○	○
646	octal bus transceiver/register; 3-state	○	○
648	octal bus transceiver/register; 3-state; inverting	○	○

PC74 SERIES		HC	HCT
652	octal registered bus transceiver	○	○
7245	octal bus Schmitt trigger tranceiver; 3-state	○	○

ACL74 FAMILY SPECIFICATIONS

General

These family specifications cover the common electrical ratings and characteristics of the entire ACL74 family, unless otherwise specified in the individual device data sheet.

Introduction

The 74AC/ACT11xxx 1 μm CMOS logic family combines the low power advantages of CMOS with the high speed and drive capability of FAST TTL. The basic family of devices, designated as 74ACxxx, operates at CMOS input logic levels for high noise immunity and negligible quiescent supply and input current. It operates from a power supply of 3 to 5.5 V. A subset of the family, designated as 74ACT11xxx, with the same features and functions as the "AC-types", operates at standard TTL power supply voltage (5 V ±10%) and logic input levels (0.8 to 2.0 V).

Handling MOS devices

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, it is desirable to take handling precautions into account.

Features

- Comprehensive type range from simple gates to shift registers and counters
- All types available in 74AC versions (CMOS input levels) and ACT versions (TTL input levels)
- All types available in small outline (SO) and plastic dual in-line (DIL) packages
- Completely latch-up free
- Highly immune to electrostatic discharge
- Low power dissipation
- 24 mA sink/source current
- Input current only 1 μA in the HIGH or LOW state. The fan-out to other CMOS ICs is therefore limited only by load capacitance and not by DC load considerations
- More than three times the noise immunity of TTL
- Input switching threshold level varies by only ±60 mV over the entire temperature range (±300 mV is specified for advanced TTL families)
- Wide supply voltage range:
  3 to 5.5 V for 74AC devices (internal logic states are maintained down to 2 V)
  5 V ±10% for 74ACT devices
- On-chip propagation delay for a single gate is 0.5 ns; with a 5 V supply and 50 pF load, average propagation delay for a device is 5 ns (HIGH-to-LOW or LOW-to-HIGH)
- Outputs have edge-control circuits that reduce switching noise
- Output buffers are standardized to allow symmetrical output current sourcing and sinking for equal output rise and fall times
- Centre supply pins and flow-through architecture minimize ground and supply rail glitches during simultaneous switching of outputs, and simplify board layout
- All inputs that control more than one output have a new (patended) dynamic hysteresis that reduces susceptibility to slow input edges
- Wide operating temperature range: −40 to +85 °C

Type number designation

Basic family:

74ACx11xxxx complete type number which can be split as follows:

74xxx 11 xxx x

x = package code:
N = plastic DIL;
D = plastic mini-pack (SO)

xxx = device number (3 digits, functioally compatible to LSTTL code; (000 = 00, 074 = 74)

11 = pinout designator; center V_{CC} and GND pins

AC = CMOS input switching levels; supply voltage range 3 to 5.5 V

ACT = TTL input switching levels; supply voltage range 5 V ±10%

74 = standard operating temperature range −40 to +85 °C

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+7	V
DC input diode current	$V_I < 0$ V $V_I > V_{CC}$	$\pm I_{IK}$	–	20	mA
DC input voltage		V_I	−0.5	V_{CC}+0.5	V
DC output diode current	$V_I < 0$ V $V_I > V_{CC}$	$\pm I_{OK}$	–	50	mA
DC output voltage		V_O	−0.5	V_{CC}+0.5	V
DC output source or sink current	$-0.5\ V < V_O < V_{CC}+0.5$ V	$\pm I_O$	–	50	mA
Storage temperature range		T_{stg}	−65	+150	°C
Power dissipation per package: plastic DIL	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW
plastic mini-pack (SO)	above +70 °C derate linearly by 6 mW/K	P_{tot}	–	400	mW

Recommended operating conditions; Voltages are referenced to GND (ground = 0 V)

parameter	symbol	min.	typ.	max.	unit	conditions
DC supply voltage range						
74AC	V_{CC}	3.0	5.0	5.5	V	
74ACT	V_{CC}	4.5	5.0	5.5	V	
HIGH level input voltage						
74AC	V_{IH}	2.1	–	–	V	V_{CC} = 3 V
		3.15	–	–	V	V_{CC} = 4.5 V
		3.85	–	–	V	V_{CC} = 5.5 V
74ACT	V_{IH}	2.0	–	–	V	V_{CC} = 4.5 V
		2.0	–	–	V	V_{CC} = 5.5 V
LOW level input voltage						
74AC	V_{IL}	–	–	0.9	V	V_{CC} = 3 V
		–	–	1.35	V	V_{CC} = 4.5 V
		–	–	1.65	V	V_{CC} = 5.5 V
74ACT	V_{IL}	–	–	0.8	V	V_{CC} = 4.5 V
		–	–	0.8	V	V_{CC} = 5.5 V
DC input voltage range	V_I	0	–	V_{CC}	V	
DC output voltage range	V_O	0	–	V_{CC}	V	
Operating ambient temperature range	T_{amb}	−40	–	+85	°C	standard

DC family characteristics, 74AC

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) +25 min.	+25 typ.	+25 max.	−40 to +85 min.	−40 to +85 max.	unit	conditions V_I	conditions other
HIGH level output voltage	3.0	V_{OH}	2.9	–	–	2.9	–	V	V_{IH} or V_{IL}	$-I_O$ = 50 μA
	4.5		4.4	–	–	4.4	–	V		$-I_O$ = 50 μA
	5.5		5.4	–	–	5.4	–	V		$-I_O$ = 50 μA
	3.0	V_{OH}	2.58	–	–	2.48	–	V	V_{IH} or V_{IL}	$-I_O$ = 4 mA
	4.5		3.94	–	–	3.8	–	V		$-I_O$ = 24 mA
	5.5		4.94	–	–	4.8	–	V		$-I_O$ = 24 mA
HIGH level output drive	5.5	V_{OH}	–	–	–	3.85	–	V		$-I_O$ = 75 mA see note
LOW level output voltage	3.0	V_{OL}	–	–	0.1	–	0.1	V	V_{IH} or V_{IL}	I_O = 50 μA
	4.5		–	–	0.1	–	0.1	V		I_O = 50 μA
	5.5		–	–	0.1	–	0.1	V		I_O = 50 μA
	3.0	V_{OL}	–	–	0.36	–	0.44	V	V_{IH} or V_{IL}	I_O = 12 mA
	4.5		–	–	0.36	–	0.44	V		I_O = 24 mA
	5.5		–	–	0.36	–	0.44	V		I_O = 24 mA
LOW level output drive	5.5	V_{OL}	–	–	–	–	1.65	V		I_O = 75 mA see note
Input leakage current	5.5	$\pm I_I$	–	–	0.1	–	1.0	μA	V_{CC} or GND	
3-state OFF-state current	5.5	$\pm I_{OZ}$	–	–	0.5	–	5.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
Quiescent supply current										
SSI	5.5	I_{CC}	–	–	4.0	–	40.0	μA	V_{CC} or GND	I_O = 0
MSI	5.5	I_{CC}	–	–	8.0	–	80.0	μA		I_O = 0

Note:
Not more than one output should be tested at a time and the duration of the test should not exceed 10 ms. This parameter has been introduced to meet the requirements of incident wave switching of 50 Ω loads.

DC family characteristics, 74ACT

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) +25 min.	typ.	max.	−40 to +85 min.	max.	unit	conditions V_I	other
HIGH level output voltage	4.5	V_{OH}	4.4 3.94	– –	– –	4.4 3.8	– –	V V	V_{IH} or V_{IL}	$-I_O$ = 50 μA $-I_O$ = 24 μA
HIGH level output drive	5.5	V_{OH}	–	–	–	3.85	–	V	V_{IH} or V_{IL}	$-I_O$ = 75 mA see note 1
LOW level output voltage	4.5	V_{OL}	– –	– –	0.1 0.36	– –	0.1 0.44	V V	V_{IH} or V_{IL}	I_O = 50 μA I_O = 24 μA
LOW level output drive	5.5	V_{OL}	–	–	–	–	1.65	V	V_{IH} or V_{IL}	I_O = 75 mA see note 1
3-state OFF-state current	5.5	$\pm I_{OZ}$	–	–	0.5	–	5.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
Quiescent supply current										
SSI	5.5	I_{CC}	–	–	4.0	–	40.0	μA	V_{CC} or GND	I_O = 0
MSI	5.5	I_{CC}	–	–	8.0	–	80.0	μA		I_O = 0
A.Q.S.C. see note 2	5.5	ΔI_{CC}	–	0.9	1.0	–	1.0	μA	V_{CC} or GND	I_O = 0; one input at 3.4 V

Note 1:
Not more than one output should be tested at a time and the duration of the test should not exceed 10 ms. This parameter has been introduced to meet the requirements of incident wave switching of 50 Ω loads.

Note 2:
Additional quiescent supply current (A.Q.S.C.) per input pin for unit load coefficient is 1.

GENERAL PURPOSE

ACL74 SERIES
Logic

74AC11/ACT11 SERIES		AC	ACT
ARITHMETIC FUNCTIONS			
280	9-bit odd/even parity generator/checker	○	○
520	8-bit identity comparator with input pull-up	○	○
521	8-bit identity comparator	○	○
BUFFERS/LINE DRIVERS			
240	octal buffer/line driver; 3-state; inverting	○	○
241	octal buffer/line driver; 3-state	○	○
244	octal buffer/line driver; 3-state	○	○
656	octal buffer/line driver with 9-bit parity generator/checker; 3-state	○	○
827	10-wide buffer/line driver; 3-state	○	○
828	10-wide buffer/line driver; 3-state; inverting	○	○
COUNTERS			
160	synchronous presettable, synchronous BCD decade counter; asynchronous reset	○	○
161	synchronous presettable, synchronous 4-bit binary counter; asynchronous reset	○	○
162	synchronous presettable, synchronous BCD decade counter; synchronous reset	○	○
163	synchronous presettable, synchronous 4-bit binary counter; synchronous reset	○	○
190	asynchronous presettable, synchronous BCD decade up/down counter with single clock	○	○
191	asynchronous presettable, synchronous 4-bit binary up/down counter with single clock	○	○
269	synchronous presettable, 4-bit binary up/down counter	○	○
579	8-bit binary up/down counter with common I/O pins; synchronous and asynchronous reset; 3-state	○	○
DECODERS/DEMULTIPLEXERS			
138	3-to-8 line decoder/demultiplexer; active-LOW	○	○
139	dual 2-to-4 line decoder/demultiplexer; active-LOW	○	○
238	3-to-8 line decoder/demultiplexer	○	○
239	dual 2-to-4 line decoder/demultiplexer; active-HIGH	○	○
D-type FLIP-FLOPS/LATCHES			
074	dual D-type flip-flop with set and reset; positive-edge trigger	○	○
174	hex D-type flip-flop with reset; positive-edge trigger	○	○
175	quad D-type flip-flop with reset; positive-edge trigger	○	○
273	octal D-type flip-flop with reset; positive-edge trigger	○	○
373	octal D-type transparent latch; 3-state	○	○
374	octal D-type flip-flop; positive-edge trigger; 3-state	○	○
377	octal D-type flip-flop with enable; positive-edge trigger	○	○
378	hex D-type flip-flop with enable; positive-edge trigger	○	○
379	quad D-type flip-flop with data enable	○	○
533	octal D-type transparent latch; 3-state; inverting	○	○
534	octal D-type flip-flop; positive-edge trigger; 3-state; inverting	○	○
821	10-wide D-type flip-flop; positive-edge trigger; 3-state	○	○
873	dual D-type transparent latch with reset; 3-state	○	○
874	dual D-type 4-bit flip-flop latch with reset; 3-state	○	○
JK FLIP-FLOPS			
109	dual JK flip-flop with set and reset; positive-edge trigger	○	○
112	dual JK flip-flop with set and reset; negative-edge trigger	○	○

74AC11/ACT11 SERIES		AC	ACT
AND GATES			
008	quad 2-input AND gate	○	○
011	triple 3-input AND gate	○	○
021	dual 4-input AND gate	○	○
EXCLUSIVE-OR GATES			
086	quad 2-input EXCLUSIVE-OR gate	○	○
EXCLUSIVE-NOR GATES			
810	quad 2-input EXCLUSIVE-NOR gate	○	○
NAND GATES			
000	quad 2-input NAND gate	○	○
010	triple 3-input NAND gate	○	○
013	dual 4-input NAND Schmitt trigger	○	○
020	dual 4-input NAND gate	○	○
030	8-input NAND gate	○	○
132	quad 2-input NAND Schmitt trigger	○	○
NOR GATES			
002	quad 2-input NOR gate	○	○
027	triple 3-input NOR gate	○	○
OR GATES			
032	quad 2-input OR gate	○	○
INVERTERS/NON-INVERTERS			
004	hex inverter	○	○
014	hex inverter Schmitt trigger	○	○
034	hex non-inverter	○	○
MULTIPLEXERS			
151	8-input multiplexer	○	○
153	dual 4-input multiplexer	○	○
157	quad 2-input multiplexer	○	○
158	quad 2-input multiplexer; inverting	○	○
251	8-input multiplexer; 3-state	○	○
253	dual 4-input multiplexer; 3-state	○	○
257	quad 2-input multiplexer; 3-state	○	○
258	quad 2-input multiplexer; 3-state; inverting	○	○
353	dual 4-input multiplexer; 3-state; inverting	○	○
REGISTERS			
194	4-bit bidirectional universal shift register	○	○
898	10-bit serial-in parallel-out shift register	○	○
979	8-bit multiplexed I/O read-back register		○
SCHMITT TRIGGERS			
013	dual 4-input NAND Schmitt trigger	○	○
014	hex inverter Schmitt trigger	○	○
132	quad 2-input NAND Schmitt trigger	○	○
TRANSCEIVERS			
245	octal transceiver with direction pin; 3-state	○	○
470	octal transceiver/register with dual enable; 3-state	○	○
471	octal transceiver/register with dual enable; 3-state; inverting	○	○

74AC11/ACT11 SERIES

		AC	ACT
543	octal latched transceiver with dual enable; 3-state		○
544	octal latched transceiver with dual enable; 3-state; inverting		○
620	octal transceiver with dual enable; 3-state; inverting	○	○
623	octal transceiver with dual enable; 3-state	○	○
640	octal transceiver with direction pin; 3-state; inverting	○	○
643	octal transceiver; 3-state; true/inverting	○	○
646	octal transceiver/register with direction pin; 3-state	○	○
648	octal transceiver/register with direction pin; 3-state; inverting	○	○
651	octal transceiver/register with dual enable; 3-state; inverting	○	○
652	octal transceiver/register with dual enable; 3-state	○	○
657	octal transceiver with 8-bit parity checker/generator; 3-state	○	○

ABT74 and MULTIBYTE FAMILY SPECIFICATIONS

General

These family specifications cover the common electrical ratings and characteristics of the entire 74ABT and MULTIBYTE families, unless otherwise specified in the individual device data sheet.

Introduction

The 74ABT and MULTIBYTE Advanced BiCMOS families combine the low power dissipation and low noise of BiCMOS with the high speed and high output drive of our bipolar logic devices. The basic families of devices designated as 74ABTxxx and MBxxxx will operate at BiCMOS input logic levels for high noise immunity, negligible quiescent supply and input current. They operate from a power supply of 4.5 to 5.5 V.

Handling BiCMOS devices

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, it is desirable to take appropriate handling precautions into account.

ABT Features

- Fastest in industry apart from ECL devices
- Ideal for bus driver applications
- Very short propagation delays
- 64 mA sink current; 32 mA source current
- Supply voltage range: 5 V ±10%
- Standard TTL pin-out
- Latch-up protection exceeds 500 mA
- Wide operating temperature range: −40 to +85 °C
- All devices available in DIL and SO packages

MULTIBYTE Features

- Double- and quadruple-byte functionality
- TTL compatible I/Os
- 50 µA I_{CCZ}
- +64/−32 mA output drive
- High performance, JEDEC registered 52-pin and 100-pin QFP packages
- Very low noise immunity
- Very low simultaneous switching propagation delay degradation
- Very low skew

Type number designation

Basic family:

74ABTxxxx complete type number which can be split as follows:

74 ABT xxx x

= package code:
N = plastic DIL;
D = plastic mini-pack (SO)

= 3 digits device number

ABT = advanced BiCMOS TTL process

74 = standard operating temperature range
−40 to +85 °C

MBxxxxx complete type number which can be split as follows:

MB xxxx x

= package code:
B = plastic quad flat pack (QFP) package

= 4 digits device number

MB = Designates MULTIBYTE products

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+7	V
DC input diode current	$V_I < 0$ V	$-I_{IK}$	−	18	mA
DC input voltage		V_I	−1.2	+7	V
DC output diode current	$V_O < 0$ V	$-I_{OK}$	−	50	mA
DC output voltage	output OFF or HIGH	V_O	−0.5	+5.5	V
DC output current	output LOW	I_O	−	128	mA
storage temperature range		T_{stg}	−65	+150	°C

Recommended operating conditions

Voltages are referenced to GND (ground = 0 V)

parameter	symbol	min.	max.	unit
DC supply voltage	V_{CC}	4.5	5.5	V
Input voltage	V_I	0	V_{CC}	V
HIGH level input voltage	V_{IH}	2.0	−	V
LOW level input voltage	V_{IL}	−	0.8	V
HIGH level output current	$-I_{OH}$	−	32	mA
LOW level output current	I_{OL}	−	64	mA
Input transition rise or fall rate	$\Delta t/\Delta V$	0	5	ns/V
Operating ambient temperature range	T_{amb}	−40	+85	°C

DC family characteristics

Voltages are referenced to GND (ground = 0 V)

	V_{CC}		T_{amb} (°C)						conditions	
			+25			−40 to +85				
parameter	V	symbol	min.	typ.	max.	min.	max.	unit	V_I	other
Input clamp voltage	4.5	$-V_{IK}$	–	0.9	1.2	–	1.2	V		$-I_{IK}$ = 18 mA
HIGH level output voltage	4.5 5.0 4.5	V_{OH}	2.5 3.0 2.0	2.9 3.4 2.4	– – –	2.5 3.0 2.0	– – –	V V V	V_{IH} or V_{IL}	$-I_O$ = 3 mA $-I_O$ = 3 mA $-I_O$ = 32 mA
LOW level output voltage	4.5	V_{OL}	–	0.42	0.55	–	0.55	V	V_{IH} or V_{IL}	I_{OL} = 64 mA
Input leakage current	5.5	I_I	–	±0.01	±0.1	–	±0.1	μA	GND or 5.5 V	
3-state output HIGH current	5.5	$-I_{OZH}$	–	5.0	50	–	50	μA	V_{IH} or V_{IL}	V_O = 2.7 V
3-state output LOW current	5.5	I_{OZL}	–	5.0	50	–	50	μA	V_{IH} or V_{IL}	V_O = 0.5 V
Short-circuit output current	5.5	$-I_O$	50	100	180	50	180	mA		V_O = 2.5 V see note 1
Quiescent supply current	5.5 5.5 5.5	I_{CCH} I_{CCL} I_{CCZ}	– – –	0.5 24 0.5	50 30 50	– – –	50 30 50	μA mA μA	V_{CC} or GND	outputs HIGH outputs LOW outputs 3-state
Additional supply current per input pin see note 2	5.5	ΔI_{CC}	–	0.5	1.5	–	1.5	mA	V_{CC} or GND	outputs enabled; one input at 3.4 V
	5.5	ΔI_{CC}	–	0.5	50	–	50	μA	V_{CC} or GND	outputs 3-state; one data input at 3.4 V
	5.5	ΔI_{CC}	–	0.5	1.5	–	1.5	mA	V_{CC} or GND	outputs 3-state; one enable input at 3.4 V

Note 1:
Not more than one output should be tested at a time and the duration of the test should not exceed 1 second.

Note 2:
This is the increase in supply current for each input at 3.4 V.

ABT74 AND MULTIBYTE SERIES		ABT	MB
BUFFERS/LINE DRIVERS			
125	quad buffer; 3-state	○	
126	quad buffer; 3-state	○	
240	octal inverting buffer; 3-state	○	
240-1	octal inverting buffer; 30 Ω termination resistor; 3-state	○	
241	octal buffer/line driver; 3-state	○	
244	octal buffer/line driver; 3-state	○	
540	octal buffer; inverting; 3-state	○	
541	octal buffer/line driver; 3-state	○	
827	10-bit buffer/line driver; non-inverting; 3-state	○	
2240	16-bit inverting buffer; 3-state		○
2241	16-bit buffer/line driver; 3-state		○
2244	16-bit buffer/line driver; 3-state		○
2541	16-bit buffer/line driver; 3-state		○
2827	20-bit buffer/line driver; non-inverting; 3-state		○
D-type FLIP-FLOPS/LATCHES			
273	octal D flip-flop	○	
373	octal D-type transparent latch; 3-state	○	
374	octal D-type flip-flop; positive-edge trigger; 3-state	○	
377	octal D-type flip-flop with enable	○	
534	octal D-type flip-flop; inverting; 3-state	○	
573	octal D-type transparent latch; 3-state	○	
574	octal D-type flip-flop; 3-state	○	
821	10-bit D-type flip-flop; positive-edge trigger; 3-state	○	
823	9-bit D-type flip-flop with reset and enable; 3-state	○	
841	10-bit bus interface latch; 3-state	○	
843	9-bit bus interface latch with set and reset; 3-state	○	
845	8-bit bus interface latch with set and reset; 3-state	○	
2373	16-bit D-type transparent latch; 3-state		○
2374	16-bit D-type flip-flop; positive-edge trigger; 3-state		○
2377	16-bit D-type flip-flop with enable		○
2821	20-bit D-type flip-flop; positive-edge trigger; 3-state		○
2823	18-bit D-type flip-flop with reset and enable; 3-state		○
2841	20-bit bus interface latch; 3-state		○
2843	18-bit bus interface latch with set and reset; 3-state		○
2845	16-bit bus interface latch with set and reset; 3-state		○
TRANSCEIVERS			
245	octal transceiver with direction pin; 3-state	○	
543	octal latched transceiver with dual enable; 3-state	○	
544	octal latched transceiver with dual enable; inverting; 3-state	○	
620	octal transceiver with dual enable; inverting; 3-state	○	
623	octal transceiver with dual enable; non-inverting; 3-state	○	
640	octal transceiver with direction pin; inverting; 3-state	○	
646	octal bus transceiver/register; 3-state	○	
648	octal bus transceiver/register;inverting; 3-state	○	
651	transceiver/register; inverting; 3-state	○	
652	transceiver/register; non-inverting; 3-state	○	
657	octal transceiver with parity generator/checker; 3-state	○	
833	octal transceiver with parity generator/checker; 3-state	○	
834	octal inverting transceiver with parity generator/checker; 3-state	○	
853	8-bit transceiver with 9-bit parity checker/generator and flag latch; 3-state	○	
854	8-bit inverting transceiver with 9-bit parity checker/generator and flag latch; 3-state	○	
861	10-bit bus transceiver; 3-state	○	

ABT74 AND MULTIBYTE SERIES		ABT	MB
863	9-bit bus transceiver; 3-state	○	
899	9-bit dual latch transceiver with 8-bit parity generator/checker; 3-state	○	
2052	16-bit registered transceiver; 3-state		○
2245	16-bit transceiver with direction pin; 3-state		○
2543	16-bit latched transceiver with dual enable; 3-state		○
2623	16-bit transceiver with dual enable; non-inverting; 3-state		○
2646	16-bit bus transceiver/register; 3-state		○
2652	16-bit transceiver/register; non-inverting; 3-state		○
2952	octal registered tranceiver; 3-state	○	
2953	octal registered tranceiver; inverting; 3-state	○	
4052	32-bit registered transceiver; 3-state		○
4245	32-bit transceiver with direction pin; 3-state		○
4543	32-bit latched transceiver with dual enable; 3-state		○
4646	32-bit bus transceiver/register; 3-state		○
4652	32-bit transceiver/register; non-inverting; 3-state		○

TTL FAMILY CHARACTERISTICS COMPARISON

	SSI gates propagation delay	flip-flops toggle rate	MSI ALU 4-bit add time
STANDARD TTL (STD: basic type number 74xx) 7400 Series SSI and MSI 8200 Series MSI 9300 and 9600 Series MSI Standard "gold doped" TTL is the industry's longest selling digital logic family still in high volume production. New system designs generally favor the Low Power Schottky TTL equivalent functions.	10 ns at 10 mW	25 MHz	27 ns
LOW POWER SCHOTTKY TTL (LS) 74LS00 Series SSI and MSI Low power Schottky provides the same speed as standard TTL at 1/5 the power. The power savings and LSI potential are encouraging the use of 74LS in most new system designs.	10 ns at 2 mW	30 MHz	21 ns
SCHOTTKY TTL (S) 74S00 Series SSI, MSI and 82S00 Series MSI Schottky TTL uses a diode clamp design to ensure the highest speed possible at TTL logic levels.	3 ns at 30 mW	90 MHz	11 ns
FAST TTL (F) 74F00 Series SSI and LSI FAST Series offers higher speeds than Schottky TTL and uses only 25% of the power.	3 ns at 4 mW	100 MHz	9 ns
ADVANCED LOW POWER SCHOTTKY (ALS) 74ALS00 Series SSI and MSI replaces LS with a 50% power saving and greater than twice the speed.	5 ns at 1 mW	60 MHz	12 ns

GENERAL PURPOSE

TTL74 SERIES
Logic

N74 SERIES		STD	LS	S	F	ALS
ARITHMETIC FUNCTIONS						
83	4-bit BCD adder				○	
83A	4-bit binary full adder (fast carry)		○			
181	4-bit arithmetic logic unit				○	
182	look-ahead carry generator				○	
280	9-bit odd/even parity generator/checker			○		
280A	9-bit odd/even parity generator/checker				○	
280B	9-bit odd/even parity generator/checker				○	
283	4-bit full adder with fast carry		○		○	
381	4-bit arithmetic logic unit				○	
382	4-bit arithmetic logic unit				○	
385	quad serial adder/subtractor				○	
582	4-bit BCD arithmetic logic unit				○	
583	4-bit BCD adder				○	
881	arithmetic logic unit/function generator				○	
882	32-bit look-ahead carry generator				○	
BUFFERS/LINE DRIVERS						
06	hex inverter buffer/driver (open collector)	○			○	
07	hex buffer/line driver (open collector)	○			○	
16	hex inverter buffer/driver (open collector)	○				
17	hex buffer/driver (open collector)	○				
125	quad buffer (3-state)	○			○	
125A	quad buffer (3-state)		○			
126	quad buffer (3-state)	○			○	
126A	quad buffer (3-state)		○			
240	octal inverter buffer (3-state)		○	○	○	
240A	octal inverter buffer (3-state)				○	○
240A-1	octal inverter buffer (3-state)					○
241	octal buffer (3-state)		○	○	○	
241A	octal buffer (3-state)				○	○
241A-1	octal buffer (3-state)					○
244	octal buffer (3-state)		○	○	○	
244A	octal buffer (3-state)				○	○
244A-1	octal buffer (3-state)					○
365	hex buffer/driver (3-state)				○	
365A	hex buffer/driver (3-state)	○	○			
366	hex inverter buffer (3-state)				○	
366A	hex inverter buffer (3-state)	○	○			
367	hex buffer/driver (3-state)				○	
367A	hex buffer/driver (3-state)	○	○			
368	hex inverter buffer (3-state)				○	
368A	hex inverter buffer (3-state)	○	○			
455	octal buffer with parity generator checker				○	
456	octal buffer with parity generator checker				○	
540	octal buffer/line driver (3-state)		○		○	
541	octal non-inverting buffer/line driver (3-state)		○		○	
655A	octal inverting buffer with parity generator/checker				○	
656A	octal buffer with parity generator checker				○	
756	octal inverter buffer (open collector)				○	
757	octal buffer (open collector)				○	
760	octal buffer (open collector)				○	
827	10-bit buffer line driver, non-inverting (3-state)				○	
828	10-bit buffer line driver, inverting (3-state)				○	
1240	octal buffer; inverting (3-state); light load				○	
1241	octal buffer; non-inverting; (3-state); light load				○	
1244	octal buffer (3-state)				○	

GENERAL PURPOSE

TTL74 SERIES
Logic

N74 SERIES		STD	LS	S	F	ALS
2240	octal inverter buffer with 30 Ω termination network (3-state)				o	
2241	octal buffer with 30 Ω termination network (3-state)				o	
2244	octal buffer with 30 Ω termination network (3-state)				o	
COMPARATORS						
85	4-bit magnitude comparator	o	o	o	o	
521	8-bit identify comparator				o	
524	8-bit register comparator (open collector)				o	
COUNTERS						
90	4-bit decade ripple counter	o	o			
92	divide-by-twelve counter	o	o			
93	4-bit binary ripple counter	o	o			
160A	synchronous BCD decade counter		o		o	
161A	synchronous 4-bit binary counter		o		o	
161B	synchronous 4-bit binary counter					o
162A	synchronous BCD decade counter		o		o	
163A	synchronous 4-bit binary counter		o		o	
163B	synchronous 4-bit binary counter					o
168	synchronous BCD decade up/down counter				o	
169	synchronous 4-bit binary up/down counter				o	
169A	synchronous 4-bit binary up/down counter		o			
190	presettable BCD/decade up/down counter				o	
191	presettable 4-bit binary up/down counter		o		o	
192	presettable BCD/decade up/down counter	o	o		o	
193	presettable 4-bit binary up/down counter	o	o		o	
269	8-bit binary counter				o	
290	4-bit decade ripple counter		o			
293	4-bit binary ripple counter		o			
390	dual decade ripple counter		o			
393	dual 4-bit binary ripple counter		o		o	
490	dual BCD decade ripple counter		o			
568	BCD decade up/down synchronous counter (3-state)				o	
569	4-bit binary up/down synchronous counter (3-state)				o	
579	8-bit binary up/down counter, common I/O (3-state)				o	
779	8-bit bidirectional binary counter (3-state)				o	
1779	8-bit bidirectional binary counter (3-state)				o	
DECODERS/DEMULTIPLEXERS						
45	BCD-to-decimal decoder/driver (open collector)	o				
138	3-line to 8-line decoder/demultiplexer		o	o	o	o
139	dual 2-line to 4-line decoder/demultiplexer		o	o	o	o
145	BCD-to-decimal decoder/driver (open collector)	o				
154	4-line to 16-line decoder/demultiplexer	o	o		o	
155	dual 2-line to 4-line decoder/demultiplexer		o			
156	dual 2-line to 4-line decoder/demultiplexer (open collector)		o			
537	1-of-10 decoder (3-state)				o	
538	1-of-8 decoder (3-state)				o	
539	dual 1-of-4 decoder (3-state)				o	
547	octal decoder/demultiplexer				o	
548	octal decoder/demultiplexer				o	
DRIVERS						
804	hex 2-input NAND driver				o	
805	hex 2-input NOR driver				o	
808	hex 2-input AND driver				o	
832	hex 2-input OR driver				o	

N74 SERIES		STD	LS	S	F	ALS
1804	hex 2-input NAND driver				○	
1805	hex 2-input NOR driver				○	
1808	hex 2-input AND driver				○	
1832	hex 2-input OR driver				○	
3037	quad 2-input NAND, 30 Ohm transmission line driver				○	
3038	quad 2-input NAND, 30 Ohm transmission line driver; open col.				○	
3040	dual 4-input NAND, 30 Ohm transmission line driver				○	
5300	fiber optic LED driver				○	
5302	fiber optic dual LED/clock driver				○	
30240	octal inverting 30 Ohm transmission line driver; open collector				○	
30244	octal 30 Ohm transmission-line/backplane driver				○	
30245	octal transceiver/30 Ohm transmission line driver; open collector				○	
30640	octal transceiver, 30 Ohm transmission driver; inverting; open collector				○	
ENCODERS						
148	8-line to 3-line priority encoder				○	
D-type FLIP-FLOPS						
74	dual D-type edge-triggered flip-flop	○		○	○	
74A	dual D-type edge-triggered flip-flop		○			○
173	quad D-type flip-flop (3-state)		○		○	
174	hex D-type flip-flop with reset	○	○	○	○	○
175	quad D-type edge-triggered flip-flop with reset	○	○	○	○	○
273	octal D-type flip-flop with reset		○	○	○	○
374	octal D-type flip-flop (3-state)		○	○	○	○
377	octal D-type flip-flop with clock enable		○		○	○
378	hex D-type flip-flop with clock enable		○		○	
379	quad D flip-flop with enable				○	
534	octal D-type flip-flop (3-state)			○	○	
564	octal D flip-flop (3-state) broadside pinout				○	
564A	octal D-type flip-flop; inverting (3-state)					○
574	octal D flip-flop (3-state) broadside pinout				○	
574A	octal D-type flip-flop (3-state); same as 'ALS374 with broadside pin-out					○
5074	synchronizing dual D-type flip-flop with metastable immune characteristics				○	
50728	cascaded synchronizing dual D-type flip-flop with metastable immune characteristics				○	
50729	synchronizing dual D-type flip-flop with edge-triggered set and reset and metastable immune characteristics				○	
JK FLIP-FLOPS						
73	dual JK master-slave flip-flop		○			
76	dual JK master-slave flip-flop		○			
107	dual JK master-slave flip-flop		○			
109	dual JK positive-edge triggered flip-flop				○	
109A	dual JK positive-edge triggered flip-flop		○			○
112	dual JK negative-edge triggered flip-flop		○	○	○	○
113	dual JK positive-edge triggered flip-flop		○		○	
114	dual JK negative-edge triggered flip-flop				○	
50109	dual synchronizing JK flip-flop; positive-edge triggered with metastable immune characteristics				○	
AND GATES						
08	quad 2-input AND gate	○	○	○	○	○
09	quad 2-input AND gate (open collector)		○			

N74 SERIES		STD	LS	S	F	ALS
11	triple 3-input AND gate		○	○	○	
11A	triple 3-input AND gate					○
21	dual 4-input AND gate		○			
Complex GATES						
51	dual 2-wide 2-input AND-OR-invert gate	○	○	○	○	
54	4-wide 2 and 3-input AND-OR-invert gate		○			
64	4-2-3-2-input AND-OR-invert gate			○	○	
EXCLUSIVE-OR GATES						
86	quad 2-input EXCLUSIVE-OR gate	○	○	○	○	○
136	quad EXCLUSIVE-OR gate (open collector)		○			
EXCLUSIVE-NOR GATES						
266	quad 2-input EXCLUSIVE-NOR gate (open collector)		○			
NAND GATES						
00	quad 2-input NAND gate	○	○	○	○	
00A	quad 2-input NAND gate					○
01	quad 2-input NAND gate (open collector)		○			
03	quad 2-input NAND gate (open collector)	○		○		
10	triple 3-input NAND gate	○	○	○	○	
10A	triple 3-input NAND gate					○
13	dual 4-input NAND Schmitt trigger		○		○	
20	dual 4-input NAND gate	○	○	○	○	
20A	dual 4-input NAND gate					○
26	quad 2-input NAND gate (open collector)	○	○			
30	8-input NAND gate		○		○	
30A	8-input NAND gate					○
37	quad 2-input NAND buffer	○	○	○	○	
38	quad 2-input NAND buffer (open collector)	○	○	○	○	
38A	quad 2-input NAND buffer (open collector)					○
39	quad 2-input NAND buffer (open collector)	○				
40	dual 4-input NAND buffer	○		○	○	
132	quad 2-input NAND Schmitt trigger		○		○	
133	13-input NAND gate			○	○	
134	12-input NAND gate (3-state)			○		
140	dual 4-input NAND line driver (50 Ohm)			○		
NOR GATES						
02	quad 2-input NOR gate	○	○	○	○	○
25	dual 4-input NOR gate with strobe	○				
27	triple 3-input NOR gate				○	○
33	quad 2-input NOR buffer (open collector)	○	○			
260	dual 5-input NOR gate		○	○	○	
OR GATES						
32	quad 2-input OR gate	○	○	○	○	○
INVERTERS						
04	hex inverter	○	○	○	○	
04B	hex inverter					○
05	hex inverter (open collector)	○	○	○		
LATCHES						
256	dual 4-bit addressable latch		○		○	
259	8-bit addressable latch		○		○	

N74 SERIES		STD	LS	S	F	ALS
373	octal transparent latch (3-state)		○	○	○	○
412	multi-mode buffered latch; non-inverting (3-state)				○	
432	multi-mode buffered latch; inverting (3-state)				○	
533	inverting octal D-type latch (3-state)				○	
563	octal D latch (3-state) broadside pinout				○	
563A	octal transparent latch; inverting (3-state)					○
573	octal transparent latch (3-state) broadside pinout				○	
573B	octal transparent latch (3-state); same as 'ALS373 with broadside pin-out					○
604	dual 8-bit register (3-state)				○	
605	dual 8-bit register (open collector)				○	
841	10-bit bus interface latch; non-inverting (3-state)				○	
842	10-bit bus interface latch; inverting (3-state)				○	
843	9-bit bus interface latch; non-inverting (3-state)				○	
844	9-bit latch bus interface, inverting (3-state)				○	
845	8-bit bus interface latch; non-inverting (3-state)				○	
846	8-bit latch bus interface, inverting (3-state)				○	
1604	dual octal latch				○	
MEMORIES						
189	64-bit bipolar RAM (16x4)			○		
189A	64-bit TTL bipolar RAM (16x4); inverting (3-state)				○	
219A	64-bit TTL bipolar RAM (16x4); non-inverting (3-state)				○	
301	256-bit TTL bipolar RAM (256x1)		○	○		
410	register stack; 16x4 RAM; 3-state output register				○	
MULTIPLEXERS						
150	16-line to 1-line multiplexer	○				
151	8-line to 1-line multiplexer		○	○	○	○
151A	8-line to 1-line multiplexer				○	
153	dual 4-line to 1-line multiplexer		○	○	○	○
157	quad 2-input data selector/multiplexer; non-inverting	○	○	○	○	○
157A	quad 2-input data selector/multiplexer; non-inverting				○	
158	quad 2-input data selector/multiplexer; inverting	○	○	○	○	○
158A	quad 2-input data selector/multiplexer; inverting				○	
251	8-line to 1-line multiplexer (3-state)			○	○	○
251A	8-line to 1-line multiplexer (3-state)				○	
253	dual 4-line to 1-line multiplexer (3-state)		○	○	○	○
257	quad 2-line to 1-line data selector/multiplexer (3-state)			○	○	○
257A	quad 2-line to 1-line data selector/multiplexer (3-state)		○		○	
258	quad 2-line to 1-line data selector/multiplexor (3-state)			○	○	○
258A	quad 2-line to 1-line data selector/multiplexer (3-state)		○		○	
352	dual 4-input multiplexer		○		○	
353	dual 4-input multiplexer (3-state)		○		○	
711A	quintuple 2-input multiplexer (3-state)				○	
711-1	quintuple 2-input multiplexer with 30 Ohm series termination resistors (3-state)				○	
712A	quintuple 3-input multiplexer				○	
712-1	quintuple 3-input multiplexer with 30 Ohm series termination resistors				○	
723A	quad 3-input multiplexer (3-state)				○	
723-1	quad 3-input multiplexer with 30 Ohm series termination resistors (3-state)				○	
725A	quad 4-input multiplexer				○	
725-1	quad 4-input multiplexer with 30 Ohm series termination resistors				○	
732	quad data multiplexer; inverting (3-state)				○	
733	quad data multiplexer; non-inverting (3-state)				○	

GENERAL PURPOSE

TTL74 SERIES
Logic

N74 SERIES

MULTIVIBRATORS

		STD	LS	S	F	ALS
121	monostable multivibrator	○				
123	dual retriggerable monostable multivibrator	○				

REGISTERS

		STD	LS	S	F	ALS
96	5-bit shift register		○			
164	8-bit serial-in/parallel-out shift register	○	○		○	○
166	8-bit serial/parallel-in/serial-out shift register	○			○	
194	4-bit bidirectional universal shift register	○		○	○	
195	4-bit parallel access shift register			○	○	
198	8-bit bidirectional universal shift register				○	
199	8-bit parallel-access shift register	○			○	
225	16x5 asynchronous FIFO (3-state)			○	○	
298	quad 2-input multiplexer with storage		○		○	
299	octal shift/storage register (3-state)				○	
322	octal shift/storage register (3-state)				○	
323	octal shift/storage register (3-state)				○	
350	4-bit shifter (3-state)				○	
395	4-bit cascadable shift register (3-state)				○	
395A	4-bit cascadable shift register (3-state)		○			
398	quad 2-port register true				○	
399	quad 2-port register true				○	
410	register stack; 16x4 RAM; 3-state output register				○	
595	8-bit shift register with output latches (3-state)				○	
597	8-bit shift register with input latches				○	
598	8-bit shift register with input latches (3-state)				○	
670	4x4 register file (3-state)		○		○	
674	16-bit serial/parallel-in,serial out shift register (3-state)				○	
676	16-bit serial/parallel-in, serial out shift register (3-state)				○	
755	octal mailbox register with 'ready' flag (3-state)				○	
821	10-bit bus interface register, non-inverting (3-state)				○	
822	10-bit bus interface register; inverting (3-state)				○	
823	9-bit bus interface register; non-inverting (3-state)				○	
824	9-bit bus interface register; inverting (3-state)				○	
825	9-bit bus interface register; non-inverting (3-state)				○	
826	9-bit bus interface register; inverting (3-state)				○	
835	8-bit shift register; 2:1 MUX-in; latched 'B' inputs; serial-out				○	

SCHMITT TRIGGERS

		STD	LS	S	F	ALS
13	dual 4-input NAND Schmitt trigger		○		○	
14	hex inverter Schmitt trigger	○	○		○	
132	quad 2-input NAND Schmitt trigger		○		○	

SPECIAL FUNCTIONS

		STD	LS	S	F	ALS
764	dual port RAM controller		○		○	
764-1	DRAM dual-ported controller				○	
765	dual port RAM controller without latch		○		○	
765-1	DRAM dual-ported controller without latch				○	
786	4-input asynchronous bus arbiter				○	
1762	1 M-bit memory address controller				○	
1763	1 M-bit intelligent DRAM controller				○	
1764	1 M-bit DRAM dual-ported controller with latch				○	
1764-1	1 M-bit DRAM dual-ported controller with latch				○	
1765	1 M-bit DRAM dual-ported controller without latch				○	
1765-1	1 M-bit DRAM dual-ported controller without latch				○	
1766	burst mode DRAM controller				○	

N74 SERIES		STD	LS	S	F	ALS
TRANSCEIVERS						
242	quad bus inverting transceiver (3-state)		○		○	
243	quad transceiver (3-state)		○		○	
245	octal bus transceiver (3-state)		○		○	
245A	octal bus transceiver (3-state)					○
245A-1	octal bus transceiver (3-state)					○
543	octal registered transceiver; non-inverting (3-state)				○	○
543-1	octal registered transceiver; non-inverting (3-state)					○
544	octal registered transceiver; inverting (3-state)				○	○
544-1	octal registered transceiver; inverting (3-state)					○
545	octal bus transceiver (3-state)				○	
552	octal registered transceiver with status flags				○	
588	octal bidirectional transceiver with IEEE-488 termination resistors (3-state inputs and outputs)				○	
620	octal bus transceiver; inverting (3-state)		○		○	
620A	octal bus transceiver; inverting (3-state)					○
620A-1	octal bus transceiver; inverting (3-state)					○
621	octal bus transceiver; non-inverting (open collector)		○		○	
622	octal bus transceiver; inverting (open collector)		○		○	
623	octal bus transceiver; non-inverting (3-state)		○		○	
623A	octal bus transceiver; non-inverting (3-state)					○
623A-1	octal bus transceiver; non-inverting (3-state)					○
640	octal bus transceiver, inverting (3-state)		○		○	
640-1	octal bus transceiver; inverting (3-state)		○			
641	octal bus transceiver; non-inverting (open collector)		○		○	
641-1	octal bus transceiver; non-inverting (open collector)		○			
642	octal bus transceiver; inverting (open collector)		○		○	
642-1	octal bus transceiver; inverting (open collector)		○			
645	octal bus transceiver (3-state)		○			
645-1	octal bus transceiver (3-state)		○			
645A	octal transceiver (3-state)					○
645A-1	octal transceiver (3-state)					○
646	octal bus transceiver and register; non-inverting (3-state)				○	○
646-1	octal transceiver/register; non-inverting (3-state)					○
646A	octal bus transceiver and register; non-inverting (3-state)				○	
647	octal bus transceiver and register; non-inverting (open collector)				○	
648	octal bus transceiver and register; inverting (3-state)				○	○
648-1	octal transceiver/register; inverting (3-state)					○
648A	octal bus transceiver and register; inverting (3-state)				○	
649	octal bus transceiver and register; inverting (open collector)				○	
651	octal transceiver/register; inverting (3-state)				○	○
651-1	octal transceiver/register; inverting (3-state)					○
651A	octal transceiver/register; inverting (3-state)				○	
652	octal transceiver/register; non-inverting (3-state)				○	○
652-1	octal transceiver/register; non-inverting (3-state)					○
652A	octal transceiver/register; non-inverting (3-state)				○	
653	octal transceiver/register, inverting (open collector) (3-state)				○	
654	octal transceiver/register, non-inverting (open collector) (3-state)				○	
657	octal bus transceiver with parity generator/checker (3-state)				○	
776	octal bidirectional latched bus transceiver (open collector)				○	
777	triple bidirectional latched bus transceiver (3-state) (open collector)				○	
807	octal shift/count registered transceiver with adder and parity (3-state)				○	
861	10-bit bus transceiver, non-inverting				○	
862	10-bit bus transceiver, inverting				○	
863	9-bit bus transceiver, non-inverting (3-state)				○	
864	9-bit bus transceiver, inverting (3-state)				○	
899	dual 9-bit latch transceiver with 8-bit parity generator/checker					

N74 SERIES		STD	LS	S	F	ALS
	(3-state)				○	
1242	quad transceiver; inverting (3-state); light load				○	
1243	quad transceiver (3-state); light load				○	
1245	octal bus transceiver (3-state); light load				○	
2952	8-bit transceiver; non-inverting (3-state)				○	
2953	8-bit transceiver; inverting (3-state)				○	
3893	quad FutureBus backplane transceiver (3-state, open collector)				○	
8960	octal latched bidirectional FutureBus transceiver; inverting (open collector)				○	
8961	octal latched bidirectional FutureBus transceiver; non-inverting (open collector)				○	
8962	9-bit latched bidirectional FutureBus transceiver; inverting (open collector)				○	
8963	9-bit latched bidirectional FutureBus transceiver; non-inverting (open collector)				○	
30245	octal transceiver/30 Ohm transmission line driver; open collector				○	
30640	octal transceiver, 30 Ohm transmission driver; inverting; open collector				○	

ECL 10K FAMILY SPECIFICATIONS

The 10K series of ECL silicon monolithic integrated circuits is designed for high speed central processors and digital communication systems. With 2 ns typical propagation delay and only 25 mW power dissipation per gate, this family offers an excellent speed-power product and therefore is recommended for large high-speed system design.

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

parameter		symbol	min.	max.	unit
DC supply voltage range		$-V_{EE}$	–	8.0	V
Input voltage (V_{IN} should never be more negative than V_{EE})		V_{IN}	0	V_{EE}	V
Output source current (continuous)		$-I_O$	–	50	mA
Storage temperature range		T_{stg}	−55	+150	°C
Junction temperature	ceramic package	T_J	–	+165	°C
	plastic package	T_J	–	+150	°C

DC operating conditions

parameter	symbol	min.	typ.	max.	unit	conditions
Circuit ground	V_{CC}	0	0	0	V	
DC supply voltage	$-V_{EE}$	–	5.2	–	V	
HIGH level input voltage	$-V_{IH}$	–	–	890	mV	T_{amb} = −30 °C
				810	mV	T_{amb} = +25 °C
				700	mV	T_{amb} = +85 °C
LOW level input voltage	$-V_{IL}$	1890	–	–	mV	T_{amb} = −30 °C
		1850	–	–	mV	T_{amb} = +25 °C
		1825	–	–	mV	T_{amb} = +85 °C
HIGH level threshold voltage	$-V_{IHT}$	1205	–	–	mV	T_{amb} = −30 °C
		1105	–	–	mV	T_{amb} = +25 °C
		1035	–	–	mV	T_{amb} = +85 °C
LOW level threshold voltage	$-V_{ILT}$	–	–	1500	mV	T_{amb} = −30 °C
		–	–	1475	mV	T_{amb} = +25 °C
		–	–	1440	mV	T_{amb} = +85 °C
Operating ambient temperature range	T_{amb}	−30	+25	+85	°C	

ECL 10K SERIES

ARITHMETIC FUNCTIONS

10160	12-bit parity checker/generator
10180	dual 2-bit adder/subtractor

BUS AND LINE DRIVERS

10192	quadruple current-mode bus driver

COUNTERS

10136	universal hexadecimal counter
10137	universal decade counter

D-type FLIP-FLOPS/LATCHES

10131	dual D-type master-slave flip-flop
10133	quadruple latch with D-type inputs and enable outputs
10134	dual 2-input multiplexer with clocked D-type latches
10175	quintuple D-type latch with common reset and two wired-OR common clock inputs
10176	hex D-type master-slave flip-flop
10231	high speed dual D-type master-slave flip-flop

JK FLIP-FLOPS

10135	dual JK master-slave flip-flop

AND/NAND GATES

10104	quadruple 2-input, 3 AND and 1 AND/NAND gate

EXCLUSIVE-OR/NOR GATES

10107	triple 2-input EXCLUSIVE-OR/EXCLUSIVE-NOR gate
10113	quadruple EXCLUSIVE-OR gate (with enable)

OR/NOR GATES

10100	quadruple 3-input NOR gate (1 input common)
10101	quadruple 2-input OR/NOR gate (1 input common)
10102	quadruple 2-input, 3 NOR and 1 OR/NOR gate
10103	quadruple 2-input, 3 OR and 1 OR/NOR gate
10105	triple 2-3-2 input OR/NOR gate
10109	dual 4-5 input OR/NOR gate

MULTIPLEXERS

10158	quadruple 2-to-1 multiplexer (non-inverting)
10164	8-input multiplexer with enable input
10173	quadruple 2-input multiplexer with latched outputs
10174	dual 4-to-1 multiplexer (with enable)

REGISTERS

10141	4-bit universal shift register

RECEIVERS

10114	triple line receiver (output OR/NOR)
10115	quadruple line receiver (output OR)
10116	triple line receiver (output OR/NOR)
10216	triple differential OR/NOR line receiver (high-speed)

TRANSLATORS AND TRANSCEIVERS

10124	quadruple TTL to ECL translator
10125	quadruple ECL to TTL translator
10129	quadruple TTL to ECL translator

ECL 10K SERIES

PROMs

10149	1024-bit ECL bipolar PROM (256x4)
10149A	1024-bit ECL bipolar PROM (256x4)

PALs

10H20EV8-4	ECL 10KH GAL-type programmable array logic

ECL 100K FAMILY SPECIFICATIONS

To satisfy the needs of new generations of computer and telecommunication systems in standard and LSI circuit design, a new technological process has been developed using oxide lateral isolation. The process is called SUBILO and permits the manufacture of integrated circuits with ultra-high speeds and high integration density.
Instead of conventional planar junction isolation technology, SUBILO uses a process that results in a considerable reduction in transistor area and an increased integration density.
By using an increase in silicon oxide instead of isolation diffusion "p", and removing the part between the emitter and isolation oxide, SUBILO technology results in a further reduction of transistor area. At the same time, the collector-base capacitance decreases, which is an important improvement in the dynamic performance of the transistor.

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

parameter	symbol	min.	max.	unit
DC supply voltage range	$-V_{EE}$	−0.5	7.0	V
Input voltage (V_{IN} should never be more negative than V_{EE})	V_{IN}	0.5	V_{EE}	V
Output source current (continuous)	$-I_O$	–	55	mA
Storage temperature range	T_{stg}	−65	+150	°C
Junction temperature	T_J	–	+150	°C

DC operating conditions

parameter	symbol	min.	typ.	max.	unit	conditions
Circuit ground	V_{CC}	0	0	0	V	
DC supply voltage	$-V_{EE}$	4.8	4.5	4.2	V	
DC supply voltage when operating with the 10K or the 100KH ECL family	$-V_{EE}$	5.7	–	–	V	
HIGH level input voltage	$-V_{IH}$	1150	–	–	mV	V_{EE} = −4.2 V
		1165	–	880	mV	V_{EE} = −4.5 V
		1165	–	–	mV	V_{EE} = −4.8 V
LOW level input voltage	$-V_{IL}$	–	–	1475	mV	V_{EE} = −4.2 V
		1810	–	1475	mV	V_{EE} = −4.5 V
		–	–	1490	mV	V_{EE} = −4.8 V
Operating ambient temperature range	T_{amb}	0	+25	+85	°C	

ECL 100K SERIES

ARITHMETIC FUNCTIONS

100179	high speed carry look ahead generator
100180	fast 6-bit adder
100181	4-bit ALU binary/decimal

BUFFERS/INVERTERS

100122	9-bit buffer gate

BUS AND LINE DRIVERS

100112	quadruple double fan-out OR/NOR gate
100113	quadruple fan-out OR/NOR gate
100123	hex bus driver
100126	9-bit buffer gate

COMPARATORS

100160	dual 9-bit parity generator/8-bit comparator
100166	9-bit comparator

COUNTERS

100136	multipurpose counting register

DECODERS/DEMULTIPLEXERS

100170	universal demultiplexer/decoder

ENCODERS

100165	universal priority encoder

D-type FLIP-FLOPS AND LATCHES

100131	triple D-type master-slave flip-flop
100150	hex D-type latch
100151	hex D-type master-slave flip-flop
100155	quadruple 2-way multiplexer latch
100175	5-bit 100K to 10K interface with latch
100231	triple D-type master-slave flip-flop (high-speed)

Complex GATES

100117	triple 1-2-2 input OR/AND-OR/NAND gate
100118	quintuple 2-4-4-4-5 input OR/AND-OR/NAND gate

EXCLUSIVE-OR/NOR GATES

100107	quintuple EXCLUSIVE OR/NOR gate with compare

OR/NOR GATES

100101	triple 5-input OR/NOR gate
100102	quintuple 2-input OR/NOR gate with common enable

MULTIPLEXERS

100155	quadruple 2-way multiplexer latch
100163	dual 8-bit multiplexer
100164	16-input multiplexer
100171	triple bit 4-way multiplexer

RECEIVERS

100114	quintuple differential line receiver

ECL 100K SERIES

REGISTERS

100141	8-bit universal shift register
100158	8-bit shift matrix

TRANSLATORS AND TRANSCEIVERS

100124	hex TTL to ECL translator
100125	hex ECL to TTL translator
100175	5-bit 100K to 10K interface with latch
100255	5-bit ECL/TTL interface
100790	9-bit transceiver
100982	hex ECL-TTL translating transceiver with registers
100984	quadruple ECL-TTL translating transceiver with registers
100990	9-bit transceiver

PROMs

100149	1024-bit ECL bipolar PROM (256x4)
100149A	1024-bit ECL bipolar PROM (256x4)

PALs

10020EV8-4	ECL 100K GAL-type programmable array logic

82/94/8T-SERIES, SPECIAL FUNCTIONS

BUFFERS/INVERTERS

8T95	high-speed hex buffer; 3-state
8T96	high-speed hex inverter; 3-state
8T97	high-speed hex buffer; 3-state
8T98	high-speed hex inverter; 3-state

BUS AND LINE DRIVERS

8T09	quadruple bus driver; 3-state
8T13	dual line driver
8T23	dual IBM 360/370 line driver

MULTIVIBRATORS

8T20	bidirectional one-shot multivibrator
9602	dual retriggerable monostable multivibrator

RECEIVERS

8T24	triple line receiver with hysteresis
8T37	hex bus receiver - Schmitt trigger

REGISTERS

8274	10-bit parallel-in/serial-out shift register

SPECIAL FUNCTIONS

8X01A	CRC generator/checker
8X60	FIFO RAM controller
9401	CRC generator/checker
9403	64-bit FIFO buffer memory

TRANSCEIVERS

8T26A	quadruple inverting bus transceiver; 3-state
8T38	quadruple bus transceiver; open collector

PHD — PROGRAMMABLE HIGH-SPEED DECODERS

PHD16N8-5	programmable high-speed decoder logic (16x16x8); t_{PD} = 5 ns
PHD48N22-7	programmable high-speed decoder logic (48x73x22) t_{PD} = 7.5 ns

PAL-TYPE — PROGRAMMABLE (AND-) ARRAY LOGIC

Combinatorial PAL-type devices

PLQ16L8	PAL-type device; (target t_{PD} = 5 ns); BiCMOS
PLUS16L8-7	PAL-type device; t_{PD} = 7.5 ns
PLUS16L8D	PAL-type device; t_{PD} = 10 ns
PLQ20L8	PAL-type device; (target t_{PD} = 5 ns); BiCMOS
PLUS20L8-7	PAL-type device; t_{PD} = 7.5 ns
PLUS20L8D	PAL-type device; t_{PD} = 10 ns

Registered PAL-type devices

PLQ16R4	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS16R4-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS16R4D	PAL-type device; t_{PD} = 10 ns; 60 MHz
PLQ16R6	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS16R6-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS16R6D	PAL-type device; t_{PD} = 10 ns; 60 MHz
PLQ16R8	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS16R8-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS16R8D	PAL-type device; t_{PD} = 10 ns; 60 MHz
PLQ20R4	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS20R4-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS20R4D	PAL-type device; t_{PD} = 10 ns; 60 MHz
PLQ20R6	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS20R6-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS20R6D	PAL-type device; t_{PD} = 10 ns; 60 MHz
PLQ20R8	PAL-type device; (target t_{PD} = 5 ns; 118 MHz); BiCMOS
PLUS20R8-7	PAL-type device; t_{PD} = 7.5 ns; 74 MHz
PLUS20R8D	PAL-type device; t_{PD} = 10 ns; 60 MHz

Universal PAL-type devices with output macro cell (OMC)

PLC18V8Z25	zero-power GAL-type EPLD; t_{PD} = 25 ns; 30 MHz
PLC18V8ZIA	zero-power GAL-type EPLD; t_{PD} = 25 ns; 30 MHz; industrial temperature range
PLC18V8Z35	zero-power GAL-type EPLD; t_{PD} = 35 ns; 21 MHz
PLC18V8ZI	zero-power GAL-type EPLD; t_{PD} = 40 ns; 21 MHz; industrial temperature range
PLQ22V10-7	BiCMOS GAL-type device; t_{PD} = 7.5 ns; 125 MHz
PL22V10-10	CMOS EEPLD GAL-type device; t_{PD} = 10 ns; 77 MHz
PL22V10-12	CMOS EEPLD GAL-type device; t_{PD} = 12 ns; 67 MHz
PL22V10-15	CMOS EEPLD GAL-type device; t_{PD} = 15 ns; 53 MHz
PL22V10I15	CMOS EEPLD GAL-type device; t_{PD} = 15 ns; 53 MHz; industrial temperature range
10H20EV8-4	ECL 10KH GAL-type programmable array logic; t_{PD} = 4.5 ns; 208 MHz
10020EV8-4	ECL 100K GAL-type programmable array logic; t_{PD} = 4.5 ns; 208 MHz

PLA — PROGRAMMABLE LOGIC ARRAYS

PLS153	programmable logic array (18x42x10); t_{PD} = 40 ns
PLS153A	programmable logic array (18x42x10); t_{PD} = 30 ns
PLUS153B	programmable logic array (18x42x10); t_{PD} = 15 ns
PLUS153D	programmable logic array (18x42x10); t_{PD} = 12 ns
PLUS153-10	programmable logic array (18x42x10); t_{PD} = 10 ns
PLS173	programmable logic array (22x42x10); t_{PD} = 30 ns
PLUS173B	programmable logic array (22x42x10); t_{PD} = 15 ns
PLUS173D	programmable logic array (22x42x10); t_{PD} = 12 ns

GENERAL PURPOSE

Programmable Logic Devices (PLDs)

PLUS173-10	programmable logic array (22x42x10); t_{PD} = 10 ns
PLS100	programmable logic array (16x48x8); t_{PD} = 50 ns
PLS101	programmable logic array (16x48x8); t_{PD} = 50 ns; open collector

PLS — PROGRAMMABLE LOGIC SEQUENCERS

PLS155	programmable logic sequencer (16x45x12); 14 MHz
PLS157	programmable logic sequencer (16x45x12); 14 MHz
PLS159A	programmable logic sequencer (16x45x12); 18 MHz
PLS167	programmable logic sequencer (14x48x6); 14 MHz
PLS167A	programmable logic sequencer (14x48x6); 20 MHz
PLS168	programmable logic sequencer (12x48x8); 14 MHz
PLS168A	programmable logic sequencer (12x48x8); 20 MHz
PLS179	programmable logic sequencer (20x45x12); 18 MHz
PLC42VA12	CMOS programmable multi-function PLD (42x105x12); 25 MHz
PLC415-16	CMOS programmable logic sequencer (17x68x8); 16 MHz
PLC415-33	CMOS programmable logic sequencer (17x68x8); 33 MHz
PLS105	programmable logic sequencer (16x48x8); 14 MHz
PLS105A	programmable logic sequencer (16x48x8); 20 MHz
PLUS105-45	programmable logic sequencer (16x48x8); 45 MHz
PLUS105-55	programmable logic sequencer (16x48x8); 55 MHz
PLUS405-37	programmable logic sequencer (16x64x8); 37 MHz
PLUS405-45	programmable logic sequencer (16x64x8); 45 MHz
PLUS405-55	programmable logic sequencer (16x64x8); 55 MHz

PMD — PROGRAMMABLE MULTI-LEVEL/MACRO DEVICES

PML — Programmable macro logic (Foldback-array architecture)

PLHS501	Bipolar programmable macro logic; t_{PD} = 22 ns
PML2552-35	CMOS programmable macro logic (EPLD); power down mode = 10 mA; t_{PD} = 35 ns; 50 MHz
PML2552-50	CMOS programmable macro logic (EPLD); power down mode = 10 mA; t_{PD} = 50 ns; 35 MHz
PML2852-35	CMOS programmable macro logic (EPLD); power down mode = 10 mA; t_{PD} = 35 ns; 50 MHz
PML2852-50	CMOS programmable macro logic (EPLD); power down mode = 10 mA; t_{PD} = 50 ns; 35 MHz

PLV — Programmable clustered GAL-type logic (22V10 superset architecture)

PLV750-20	CMOS GAL-type (EPLD), t_{PD} = 20 ns/50 MHz (2 x 22V10)
PLV750-25	CMOS GAL-type (EPLD), t_{PD} = 25 ns/45 MHz (2 x 22V10)
PLV750L25	CMOS low-power (12 mA) GAL-type (EPLD), t_{PD} = 25 ns/45 MHz (2 x 22V10)
PLV750L30	CMOS low-power (12 mA) GAL-type (EPLD), t_{PD} = 30 ns/40 MHz (2 x 22V10)
PLV2500H25	CMOS multiple GAL-type (EPLD), t_{PD} = 25 ns/36 MHz
PLV2500H30	CMOS multiple GAL-type (EPLD), t_{PD} = 30 ns/31 MHz
PLV2500L30	CMOS low-power (5 mA) multiple GAL-type (EPLD), t_{PD} = 30 ns/25 MHz
PLV2500L35	CMOS low-power (5 mA) multiple GAL-type (EPLD), t_{PD} = 35 ns/23 MHz
PLV5000-25	CMOS multiple GAL-type (EPLD), t_{PD} = 25 ns/33 MHz
PLV5000-30	CMOS multiple GAL-type (EPLD), t_{PD} = 30 ns/27 MHz
PLV5000L30	CMOS low-power (40 mA) multiple GAL-type (EPLD), t_{PD} = 30 ns/27 MHz
PLV5000L35	CMOS low-power (40 mA) multiple GAL-type (EPLD), t_{PD} = 35 ns/22 MHz

Notes
PAL is a registered trademark of Monolithic Memories, Inc., a wholly owned subsidiary of Advanced Micri Devices, Inc.
GAL is a registered trademark of LATTICE.

EPLD = CMOS PLD with EPROM-cell programming technology (UV-light erasable)
EEPLD = CMOS PLD with EEPROM-cell programming technology (electrically erasable)

Design support with Philips/Signetics software package 'SNAP/SLICE' and 3rd-party software packages

GENERAL PURPOSE

Memories

EPROMs

27HC641-OTP	64K CMOS EPROM (8Kx8); one time programmable
27HC641-UV	64K CMOS EPROM (8Kx8); erasable
27C64A-IND	64K CMOS EPROM (8Kx8); industrial temperature range −40 to +85 °C
27C64A-OTP	64K CMOS EPROM (8Kx8); one time programmable
27C64A-UV	64K CMOS EPROM (8Kx8); erasable
27C256-IND	256K CMOS EPROM (32Kx8); industrial temperature range −40 to +85 °C
27C256-OTP	256K CMOS EPROM (32Kx8); one time programmable
27C256-UV	256K CMOS EPROM (32Kx8); erasable
27C512-IND	512K CMOS EPROM (64Kx8); industrial temperature range −40 to +85 °C
27C512-OTP	512K CMOS EPROM (64Kx8); one time programmable
27C512-UV	512K CMOS EPROM (64Kx8); erasable
27C010-IND	1 M-bit CMOS EPROM (128Kx8); industrial temperature range −40 to +85 °C
27C010-OTP	1 M-bit CMOS EPROM (128Kx8); one time programmable
27C010-UV	1 M-bit CMOS EPROM (128Kx8); erasable
27C210-IND	1 M-bit CMOS EPROM (64Kx16); industrial temperature range −40 to +85 °C
27C210-OTP	1 M-bit CMOS EPROM (64Kx16); one time programmable
27C210-UV	1 M-bit CMOS EPROM (64Kx16); erasable

EEPROMs

PCF8581	128x8-bit EEPROM with I^2C-bus interface; supply voltage 4.5 to 5.5 V
PCF8581C	128x8-bit EEPROM with I^2C-bus interface; supply voltage 2.5 to 6 V
PCF8582A	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature
PCA8582B	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; single bit error correction for extended number of erase/write cycles
PCF8582C	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8582D	256x8-bit static CMOS EEPROM with I^2C-bus interface;single bit error correction for extended number of erase/write cycles
PCF8582E	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8582C-2	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8582D-2	256x8-bit static CMOS EEPROM with I^2C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8582E-2	256x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8582F-2	256x8-bit static CMOS EEPROM with I^2C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8594C-2	512x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8594D-2	512x8-bit static CMOS EEPROM with I^2C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8594E-2	512x8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8594F-2	512x8-bit static CMOS EEPROM with I^2C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8598C-2	1kx8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8598D-2	1kx8-bit static CMOS EEPROM with I^2C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8598E-2	1kx8-bit static CMOS EEPROM with I^2C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8598F-2	1kx8-bit static CMOS EEPROM with I^2C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles

GENERAL PURPOSE

Memories

BIPOLAR PROMs

82S23	256-bit TTL bipolar PROM (32x8)
82S23A	256-bit TTL bipolar PROM (32x8)
82US23	256-bit TTL bipolar PROM (32x8)
82S123	256-bit TTL bipolar PROM (32x8)
82S123A	256-bit TTL bipolar PROM (32x8)
82S126	1024-bit TTL bipolar PROM (256x4)
82S126A	1024-bit TTL bipolar PROM (256x4)
82S129	1024-bit TTL bipolar PROM (256x4)
82S129A	1024-bit TTL bipolar PROM (256x4)
82S130	2048-bit TTL bipolar PROM (512x4)
82S130A	2048-bit TTL bipolar PROM (512x4)
82S131	2048-bit TTL bipolar PROM (512x4)
82S131A	2048-bit TTL bipolar PROM (512x4)
82LS135	2048-bit TTL bipolar PROM (256x8)
82S135	2048-bit TTL bipolar PROM (256x8)
82S115	4096-bit TTL bipolar PROM (512x8)
82S137	4096-bit TTL bipolar PROM (1024x4)
82S137A	4096-bit TTL bipolar PROM (1024x4)
82S137B	4096-bit TTL bipolar PROM (1024x4)
82S141	4096-bit TTL bipolar PROM (512x8)
82S141A	4096-bit TTL bipolar PROM (512x8)
82S147	4096-bit TTL bipolar PROM (512x8)
82S147A	4096-bit TTL bipolar PROM (512x8)
82S147B	4096-bit TTL bipolar PROM (512x8)
82S181	8192-bit TTL bipolar PROM (1024x8)
82S181A	8192-bit TTL bipolar PROM (1024x8)
82S181C	8192-bit TTL bipolar PROM (1024x8)
82S183	8192-bit TTL bipolar PROM (1024x8)
82S185	8192-bit TTL bipolar PROM (2048x4)
82S185A	8192-bit TTL bipolar PROM (2048x4)
82S185B	8192-bit TTL bipolar PROM (2048x4)
82S191	16384-bit TTL bipolar PROM (2048x8)
82S191A	16384-bit TTL bipolar PROM (2048x8)
82S191C	16384-bit TTL bipolar PROM (2048x8)
82HS195	16384-bit TTL bipolar PROM (4096x4)
82HS195A	16384-bit TTL bipolar PROM (4096x4)
82HS195B	16384-bit TTL bipolar PROM (4096x4)
82HS321	32768-bit TTL bipolar PROM (4096x8)
82HS321A	32768-bit TTL bipolar PROM (4096x8)
82HS321B	32768-bit TTL bipolar PROM (4096x8)
82HS641	65536-bit TTL bipolar PROM (8192x8)
82HS641A	65536-bit TTL bipolar PROM (8192x8)
82HS641B	65536-bit TTL bipolar PROM (8192x8)

CMOS RAMs

PCF8570	256x8-bit static RAM with I^2C bus interface
PCF8570C	256x8-bit static RAM with I^2C bus interface; alternative slave address
PCF8571	128x8-bit static RAM with I^2C bus interface
PCD5101	256x4-bit static RAM; 2.5 V supply; 1 V data retention
PCD5114	1024x4-bit static RAM; 2.5 V supply; 1 V data retention

BIPOLAR RAMs

3101A	64-bit TTL bipolar RAM (16x4)
74S189	64-bit TTL bipolar RAM (16x4)

GENERAL PURPOSE

Memories

74F189A	64-bit TTL bipolar RAM (16x4)
74F219A	64-bit TTL bipolar RAM (16x4)
74F410	64-bit TTL bipolar RAM (16x4)
82S16	256-bit TTL bipolar RAM (256x1)
82LS16	256-bit TTL bipolar RAM (256x1)
74S301	256-bit TTL bipolar RAM (256x1)
74LS301	256-bit TTL bipolar RAM (256x1)
82S09	576-bit TTL bipolar RAM (64x9)
82S09A	576-bit TTL bipolar RAM (64x9)
82S19	576-bit TTL bipolar RAM (64x9)
8X350	2048-bit TTL bipolar RAM (256x8)
82S212	2304-bit TTL bipolar RAM (256x9)
82S212A	2304-bit TTL bipolar RAM (256x9)

RAM/DRAM CONTROLLERS

N8X60	FIFO RAM controller (4K RAM)
N74F764	DRAM dual-ported controller
N74F764-1	DRAM dual-ported controller
N74F765	DRAM dual-ported controller without latch
N74F765-1	DRAM dual-ported controller without latch
N74F1762	4 M-bit memory address controller
N74F1763	1 M-bit intelligent DRAM controller
N74F1764	1 M-bit DRAM dual-ported controller with latch
N74F1764-1	1 M-bit DRAM dual-ported controller with latch
N74F1765	1 M-bit DRAM dual-ported controller without latch
N74F1765-1	1 M-bit DRAM dual-ported controller without latch
N74F1766	burst-mode DRAM controller
PC74HCT7030	9-bit x 64 word FIFO register; 3-state
PC74HCT40105	4-bit x 16 word FIFO register
PC74HC7030	9-bit x 64 word FIFO register; 3-state
PC74HC40105	4-bit x 16 word FIFO register

BIPOLAR 8-BIT MICROCONTROLLERS

N8X305	microcontroller; 200 ns cycle time
N8X310	interrupt controller
N8X320	bus interface array; 2-port RAM for 8/16-bit mailbox interface
N8X350	2048-bit TTL bipolar RAM (256x8)
N8X371	transparent I/O port; 8-bit bidirectional
N8X372	addressable I/O port; 8-bit bidirectional, synchronous
N8X376	addressable I/O port; 8-bit bidirectional, asynchronous
N8X401	8-bit bipolar microcontroller
N8X450	256-bit bipolar RAM (32x8)
8X300KT1SK	8X300 prototyping system
8X300KT2SK	8X300 prototyping system memory expansion
8X400KT1SK	development board for N8X401
8X300AS1SS	8X300 cross assembler
8X300AS3SS	8X300 cross assembler for MS-DOS systems
8X400AS1SS	cross-assembler for N8X401 (written in Pascal for IBM PC)

8051-BASED 8-BIT MICROCONTROLLERS

80C51 family of CMOS 8-bit microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
80C31	0	128	30	four 8-bit I/O ports; two 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 12 to 30 MHz speed versions; CMOS and TTL compatible	OTP package
80C51	4k ROM	128	30		
87C51	4k EPROM	128	16		
80C32	0	256	20	four 8-bit I/O ports; three 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 16 MHz and 20 MHz speed versions; CMOS and TTL compatible	OTP package
80C52	8k ROM	256	20		
87C52	8k EPROM	256	20		
80C451	0	128	16	seven 8-bit I/O ports (LCC version) or six 8-bit and one 4-bit I/O ports (DIL version); two 16-bit counter/timers; UART; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	
83C451	4k ROM	128	16		
87C451	4k EPROM	128	16		
80C528	0	512	16	four 8-bit I/O ports; three 16-bit counter/timers; watchdog timer; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions; CMOS and TTL compatible	OTP package; ROM code protection; extended temp.
83C528	32k ROM	512	16		
87C528	32k EPROM	512	16		
80C550	0	128	16	three 8-bit I/O ports; one 8-bit input port; 8 channels of 8-bit ADC; two 16-bit counter/timers; watchdog timer; UART; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions; CMOS and TTL compatible	OTP package; extended temp.
83C550	4k ROM	128	16		
87C550	4k EPROM	128	16		
80C552	0	256	16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	OTP package; extended temp.
83C552	8k ROM	256	16		
87C552	8k EPROM	256	16		
80C562	0	256	16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 8-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; watchdog timer; UART; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	87C552 for development
83C562	8k ROM	256	16		

GENERAL PURPOSE

Microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
80C592	0	512	16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; UART; CAN interface; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	OTP package; extended temp.
83C592	16k ROM	512	16		
87C592	16k EPROM	512	16		
80C652	0	256	16	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	OTP package; extended temp.
83C652	8k ROM	256	16		
87C652	8K EPROM	256	16		
83C654	16k ROM	256	16	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	OTP package; extended temp.
87C654	16k EPROM	256	16		
83C751	2k ROM	64	16	two 8-bit I/O ports; one 3-bit I/O port; 16-bit auto-reload counter/timer; boolean processor; I^{2}C-bus; CMOS and TTL compatible; 12 and 16 MHz speed versions	OTP package
87C751	2k EPROM	64	16		
83C752	2k ROM	64	16	two 8-bit I/O ports; one 5-bit I/O port; five channel multiplexed 8-bit ADC8-bit PWM output; 16-bit auto-reload counter/timer; boolean processor; I^{2}C-bus; CMOS and TTL compatible; 12 and 16 MHz speed versions	OTP package extended temp.
87C752	2k EPROM	64	16		
80C851	0 256 EEPROM	128	12	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 12 MHz speed; boolean processor; CMOS and TTL compatible;	
83C851	4k ROM 256 EEPROM	128	12		
83C852	6k ROM + 2k EEPROM	256	16	one 2-bit I/O port; two 16-bit timers; cryptographic calculations unit; security features; versatile EEPROM with 10000 erase/write cycles per byte, 10 years data retention and error correction	smart card applications
83C053	8k ROM	192	12	128×10 display RAM; 60×18×14 character generator ROM; OSD controller; 3 digital video outputs; 37 I/O lines; 14-bit PWM; eight 6-bit PWMs; triple multiplexed DAC	television and video applications
87C054	16k OTPROM	192	12		

P80CLxxx family of CMOS 8-bit microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
80CL410	0	128	16	four 8-bit I/O ports; two 16-bit counter/timers; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 32 kHz to 16 MHz speed; IDLE and STOP for low power consumption; wake-up facility	1.8 to 6 V supply voltage
83CL410	4k	128	16		
80CL580	0	256	16	five 8-bit I/O ports; two 16-bit counter/timers; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 32 kHz to 16 MHz speed; IDLE and STOP for low power consumption; wake-up facility	1.8 to 6 V supply voltage
83CL580	6k	256	16		
80CL710	0	256	16	four 8-bit I/O ports; two 16-bit counter/timers; I^{2}C-bus; 64k ROM and 64k RAM external addressing; 32 kHz to 16 MHz speed; IDLE and STOP for low power consumption; wake-up facility	1.8 to 6 V supply voltage
83CL710	16k	256	16		

8051 family of 8-bit NMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
8051 **8031**	4k 0	128 128	15 15	four 8-bit I/O ports; two 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 12 and 15 MHz speed versions;	
8052 **8032**	8k 0	256 256	15 15	four 8-bit I/O ports; three 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 12 and 15 MHz speed versions;	

8048-BASED 8-BIT MICROCONTROLLERS

8048 family of 8-bit NMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
8048 **8035**	1k 0	64 64	11 11	three 8-bit I/O ports; one 8-bit counter/timer	extended temp.
8049 **8039**	2k 0	128 128	11 11	three 8-bit I/O ports; one 8-bit counter/timer	extended temp.
8050 **8040**	4k 0	256 256	11 11	three 8-bit I/O ports; one 8-bit counter/timer	extended temp.

PCx8400 family of 8-bit CMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
84C12A **84C22A** **84C42A**	1k 2k 4k	64 64 64	16 16 16	one 8-bit I/O port; one 5-bit I/O port; one 8-bit counter/timer	2.5 to 5.5 V supply voltage
84C21A **84C41A** **84C81A**	2k 4k 8k	64 128 256	16 16 16	two 8-bit I/O ports; one 3-bit I/O port; one 8-bit counter/timer; I^2C-bus	2.5 to 5.5 V supply voltage
84C85A	8k	256	16	three 8-bit I/O ports; one 7-bit I/O port; one 8-bit counter/timer; I^2C-bus	2.5 to 5.5 V supply voltage
84C121	1k 8 EEPROM	64	10	one 8-bit I/O port; one 5-bit I/O port; one 8-bit counter/timer	2.5 to 5.5 V supply voltage
84C122	1k	32	5	12 (PCA84C122B) or 16 (PCA84C122A) I/O lines; 8-bit timer with 5-bit pre-scaler; watchdog timer; 30 mA IR-LED drive output; remote control transmitter applications	2.0 to 5.5 V supply voltage
84C230	2k	64	10	one 8-bit I/O port; one 4-bit I/O port; 16 LCD output lines (64 segments drive)	2.5 to 5.5 V supply voltage
84C270 **84C271** **84C470**	2k 2k 4k	128 128 128	10 10 10	one 8-bit I/O port (6 lines with LED drive capability, 2 lines with 16 mA drive capability); 8 sense amplifier inputs; 16 keyboard scanning outputs	keyboard applications
84C430	4k	128	10	three 8-bit I/O ports; 24 LCD driver outputs; one 8-bit counter/timer; I^2C-bus	2.5 to 5.5 V supply voltage

GENERAL PURPOSE

Microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
84C440	4k	128	10	three 8-bit I/O ports; one 5-bit I/O port; 8-bit counter/timer; five 6-bit DACs; 14-bit DAC for voltage synthesized tuning (VST); 3-bit DAC + comparator for AFC; OSD of 2 rows of 16 characters; 64 characters for OSD	RC osc; I^2C-bus
84C441	4k	128	10		LC osc; I^2C-bus
84C443	4k	128	10		RC oscillator
84C444	4k	128	10		LC oscillator
84C640	6k	128	10		RC osc; I^2C-bus
84C641	6k	128	10		LC osc; I^2C-bus
84C643	6k	128	10		RC oscillator
84C644	6k	128	10		LC oscillator
84C840	8k	192	10		RC osc; I^2C-bus
84C841	8k	192	10		LC osc; I^2C-bus
84C843	8k	192	10		RC oscillator
84C844	8k	192	10		LC oscillator
84C633A	6k	256	16	three 8-bit I/O ports; one 4-bit I/O port; 20 LCD output lines (64 segments drive); 8-bit counter/timer; 16-bit counter/compare register; 16-bit up/down counter/timer	2.5 to 5.5 V supply voltage
84C853A	8k	256	16	three 8-bit I/O ports; one 4-bit I/O port; one 5-bit I/O port; 8-bit counter/timer; 16-bit counter/compare register; 16-bit up/down counter/timer	2.5 to 5.5 V supply voltage

MAx8400 family of 8-bit NMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
8411	1k	64	6	one 8-bit I/O port (10 mA drive); one 8-bit I/O port (20 mA drive); one 3-bit I/O port; 8-bit counter/timer; I^2C-bus	
8421	2k	64	6		
8441	4k	128	6		
8461	6k	128	6		
8422	2k	64	6	one 8-bit I/O port (10 mA drive); one 3-bit I/O port; 8-bit counter/timer; I^2C-bus	
8442	4k	128	6		

PCD3300 family of 8-bit CMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
3315A	1.5k	160	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer	1.8 to 6 V supply voltage
3343A	3k	224	16	two 8-bit I/O ports; one 3-bit I/O port; 8-bit counter/timer; I^2C-bus	1.8 to 6 V supply voltage
3344A	2k	224	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3346	4k	128	10	two 8-bit I/O ports; one 3-bit I/O port; two 8-bit counter/timers; I^2C-bus	2.5 to 6 V supply voltage
3347	1.5k	64	3.58	one 8-bit I/O port; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3348A	8k	256	16	two 8-bit I/O ports; one 3-bit I/O port; two 8-bit counter/timers; I^2C-bus	1.8 to 6 V supply voltage

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
3349A	4k	224	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3350A	8k 256 EEPROM	256	16	four 8-bit I/O ports; one 2-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3351A	2k 128 EEPROM	64	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3352A	4k	128	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3353A	6k	128	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3354A	8k 256 EEPROM	256	16	four 8-bit I/O ports; one 4-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage

16/32-BIT CMOS MICROCONTROLLERS/MICROPROCESSORS

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
SCC68070	0	0	17.5	16 MB addressing; UART; I^2C-bus; 2 DMA channels; MMU; 16-bit counter/timer; two 16-bit match/count/capture registers; 10 MHz to 17.5 MHz speed versions	68000-bus interface
PC90C100	0	512	15	two 16-bit I/O ports; one 8-bit I/O port; UART; I^2C-bus; one 16-bit counter/timer; two match/count/capture registers	68000-bus interface; 80C51-bus interface;
93C100	34k	512	15		
97C100	32k EPROM	512	15		
90C101	0	512	15		
93C101	34k	512	15		

PERIPHERAL ICs

SCN2672	programmable video timing controller (PVTC)
SCN2672T	programmable video timing controller (Turbo-PVTC)
SCN2674	advanced video display controller (AVDC)
SCN2674T	advanced video display controller (Turbo-AVDC)
SCB2675	color/monochrome attributes controller (CMAC)
SCC63484	advanced CRT controller (ACRTC)
SCC66470/03	video and system controller; 68000-bus compatible

AMPLIFIERS

Operational amplifiers

LM124	quad low-power operational amplifier; −55 to +125 °C
LM224	quad low-power operational amplifier; −25 to +85 °C
LM324	quad low-power operational amplifier; 0 to +70 °C
LM324A	quad low-power operational amplifier; improved LM324; 0 to +70 °C
AU2902	quad low-power operational amplifier; automotive temperature range
LM2902	quad low-power operational amplifier; −40 to +85 °C
SA534	quad low-power operational amplifier; −40 to +85 °C
LM158	dual low-power operational amplifier; −55 to +125 °C
LM258	dual low-power operational amplifier; −25 to +85 °C
LM358	dual low-power operational amplifier; 0 to +70 °C
LM358A	dual low-power operational amplifier; improved LM358; 0 to +70 °C
AU2904	dual low-power operational amplifier; automotive temperature range
LM2904	dual low-power operational amplifier; −40 to +85 °C
NE532	dual low-power operational amplifier; 0 to +70 °C
SA532	dual low-power operational amplifier; −40 to +85 °C
SE532	dual low-power operational amplifier; −55 to +125 °C
MC1458	dual general purpose operational amplifier; 0 to +70 °C
SA1458	dual general purpose operational amplifier; −40 to +85 °C
MC1558	dual general purpose operational amplifier; −55 to +125 °C
NE531	high slew rate operational amplifier; 0 to +70 °C
SE531	high slew rate operational amplifier; −55 to + 125 °C
NE4558	dual general purpose operational amplifier; 0 to +70 °C
SA4558	dual general purpose operational amplifier; −40 to +85 °C
SE4558	dual general purpose operational amplifier; −55 to + 125 °C
NE5230	low-voltage operational amplifier; 0 to +70 °C
SA5230	low-voltage operational amplifier; −40 to +85 °C
NE5234	matched quad high-performance low-voltage (1.8 V) operational amplifier; 0 to +70 °C
SA5234	matched quad high-performance low-voltage (1.8 V) operational amplifier; −40 to +85 °C
NE5512	dual high-performance operational amplifier; 0 to +70 °C
SA5512	dual high-performance operational amplifier; −40 to +85 °C
NE5514	quad high-performance operational amplifier; 0 to +70 °C
SE5514	quad high-performance operational amplifier; −55 to + 125 °C
NE5532	internally compensated dual low-noise operational amplifier; 0 to +70 °C
SE5532	internally compensated dual low-noise operational amplifier; −55 to + 125 °C
NE5532A	internally compensated dual low-noise operational amplifier; guaranteed-low noise voltage spec; 0 to +70 °C
SE5532A	internally compensated dual low-noise operational amplifier; guaranteed-low noise voltage spec; −55 to + 125 °C
NE5533	dual low-noise operational amplifier; 0 to +70 °C
NE5533A	dual low-noise operational amplifier; guaranteed-low noise voltage spec; 0 to +70 °C
NE5534	single low-noise operational amplifier; 0 to +70 °C
SA5534	single low-noise operational amplifier; −40 to +85 °C
SE5534	single low-noise operational amplifier; −55 to + 125 °C
NE5534A	single low-noise operational amplifier; guaranteed-low noise voltage spec; 0 to +70 °C
SA5534A	single low-noise operational amplifier; guaranteed-low noise voltage spec; −40 to +85 °C
SE5534A	single low-noise operational amplifier; guaranteed-low noise voltage spec; −55 to + 125 °C
µA741C	general purpose operational amplifier; 0 to +70 °C
SA741C	general purpose operational amplifier; −40 to +85 °C

GENERAL PURPOSE

µA741	general purpose operational amplifier; −55 to + 125 °C
µA747C	dual operational amplifier; 0 to +70 °C
µA747	dual operational amplifier; −55 to + 125 °C
TCA520B	low-power/low-voltage operational amplifier
TCA520D	low-power/low-voltage operational amplifier; TCA520B in SMD package

High frequency and video amplifiers

NE5200	dual gain stage RF amplifier; 0 to +70 °C
SA5200	dual gain stage RF amplifier; −40 to +85 °C
NE5204A	wide band high frequency amplifier; 350 MHz; 0 to +70 °C
SA5204A	wide band high-frequency amplifier; 350 MHz; −40 to +85 °C
NE5205A	wide band high frequency amplifier; 550 MHz; 0 to +70 °C
SA5205A	wide band high-frequency amplifier; 550 MHz;; −40 to +85 °C
NE5209	850 MHz voltage-controlled amplifier; 0 to +70 °C
SA5209	850 MHz voltage-controlled amplifier; −40 to +85 °C
NE5219	700 MHz voltage-controlled amplifier; 0 to +70 °C
SA5219	700 MHz voltage-controlled amplifier; −40 to +85 °C
NE5539	350 MHz operational amplifier; 0 to +70 °C
SE5539	350 MHz operational amplifier; −55 to + 125 °C
NE592	120 MHz video amplifier with adjustable gain; 0 to +70 °C
SA592	120 MHz video amplifier with adjustable gain; −40 to +85 °C
NE5592	dual 110 MHz video amplifier with adjustable gain; 0 to +70 °C
µA733C	differential video amplifier; 120 MHz bandwidth; 0 to +70 °C
µA733	differential video amplifier; 120 MHz bandwidth; −55 to + 125 °C

Transconductance amplifiers

NE5517	dual operational transductance amplifier; 0 to +70 °C
NE5517A	dual operational transductance amplifier; improved NE5517; 0 to +70 °C

Fibre optic amplifiers

NE5210	transimpedance amplifier; 280 MHz bandwidth; 0 to +70 °C
NE5211	transimpedance amplifier; 180 MHz bandwidth; 0 to +70 °C
SA5211	transimpedance amplifier; 180 MHz bandwidth; −40 to +85 °C
NE5212A	transimpedance amplifier; 140 MHz bandwidth; 0 to +70 °C
SA5212A	transimpedance amplifier; 140 MHz bandwidth; −40 to +85 °C
NE5214	fibre-optic post-amplifier with link status indicator; 75 MHz; 0 to +70 °C
SA5214	fibre-optic post-amplifier with link status indicator; 75 MHz; −40 to +85 °C
NE5217	fibre-optic post-amplifier with link status indicator; Schmitt trigger function; 0 to +70 °C
SA5217	fibre-optic post-amplifier with link status indicator; Schmitt trigger function; −40 to +85 °C
NE5222	low power low noise FDDI transimpedance amplifier; 140 MHz; 0 to +70 °C
SA5222	low power low noise FDDI transimpedance amplifier; 140 MHz;; −40 to +85 °C
NE5224	FDDI fibre-optic postamlifier; 120 MHz; 100k ECL output; 0 to +70 °C
SA5224	FDDI fibre-optic postamlifier; 120 MHz; 100k ECL output; −40 to +85 °C
NE5225	FDDI fibre-optic postamlifier; 120 MHz; 10k ECL output; 0 to +70 °C
SA5225	FDDI fibre-optic postamlifier; 120 MHz; 10k ECL output; −40 to +85 °C

DATA CONVERSION

See also **Radio/Audio** and **Video** sections

Sample-and-hold amplifiers

LF198	sample-and-hold amplifier; −55 to + 125 °C
LF298	sample-and-hold amplifier; −25 to +85 °C
LF398	sample-and-hold amplifier; 0 to +70 °C
NE5537	low leakage sample-and-hold amplifier; 0 to +70 °C
SE5537	low leakage sample-and-hold amplifier; −55 to + 125 °C

GENERAL PURPOSE

Analog products

ADCs

ADC0803-1C	8-bit CMOS ADC; 1 MHz; 0 to +70 °C
ADC0803-1LC	8-bit CMOS ADC; 1 MHz; −40 to +85 °C
ADC0804-1C	8-bit CMOS ADC; 1 MHz; 0 to +70 °C
ADC0804-1LC	8-bit CMOS ADC; 1 MHz; −40 to +85 °C
ADC0820	8-bit, high speed, CMOS ADC with track/hold; microprocessor compatible; 0 to +70 °C
NE5036	6-bit ADC (serial output); low-cost; 23 µs conversion time; 0 to +70 °C
NE5037	6-bit ADC (parallel outputs); low-cost; 9 µs conversion time; 0 to +70 °C
TDA8703	8-bit high-performance, high-speed ADC; 40 MHz (max.); TTL-compatible; internal voltage reference regulator
TDA8713	8-bit high-performance, high-speed ADC; 40 MHz (max.); TTL compatible
TDA8715	8-bit high-performance, high-speed ADC; 50 MHz (max.); ECL compatible; 0 to +70 °C
TDE8715	8-bit high-performance, high-speed ADC; 50 MHz (max.); ECL compatible; extended temperature

DACs

AM6012	12-bit multiplying DAC; 250 ns settling time; 0 to +70 °C
DAC08	8-bit high-speed multiplying DAC; −55 to + 125 °C
DAC08A	8-bit high-speed multiplying DAC; −55 to + 125 °C
DAC08C	8-bit high-speed multiplying DAC; 0 to +70 °C
DAC08E	8-bit high-speed multiplying DAC; 0 to +70 °C
DAC08H	8-bit high-speed multiplying DAC; 0 to +70 °C
MC1408-8	8-bit multiplying DAC; 0 to +70 °C
MC1508-8	8-bit multiplying DAC; −55 to + 125 °C
MC3410	10-bit high-speed multiplying DAC; improved MC3410C; 0 to +70 °C
MC3410C	10-bit high-speed multiplying DAC; 0 to +70 °C
NE5018	8-bit microprocessor-compatible DAC; 0 to +70 °C
SE5018	8-bit microprocessor-compatible DAC; −55 to + 125 °C
NE5019	8-bit microprocessor-compatible DAC; improved NE5018; 0 to +70 °C
NE5020	10-bit microprocessor-compatible DAC; 0 to +70 °C
NE5410	10-bit high-speed multiplying DAC; 0 to +70 °C
SE5410	10-bit high-speed multiplying DAC; −55 to + 125 °C
PCF5012	14-bit bitstream ADC/DAC
PCF8591	8-bit AD and DA converter; I^{2}C bus
TDA8702	8-bit high-performance, high-speed video DAC; 30 MHz (max.); TTL-compatible
TDE8712	8-bit video digital-to-analog converter

Comparators

LM111	voltage comparator; −55 to + 125 °C
LM211	voltage comparator; −25 to +85 °C
LM311	voltage comparator; 0 to +70 °C

LM219	dual voltage comparator; −25 to +85 °C
LM319	dual voltage comparator; 0 to +70 °C

LM139	quad voltage comparator; −55 to + 125 °C
LM139A	quad voltage comparator; improved LM139; −55 to + 125 °C
LM239	quad voltage comparator; −25 to +85 °C
LM239A	quad voltage comparator; improved LM239; −25 to +85 °C
LM339	quad voltage comparator; 0 to +70 °C
LM339A	quad voltage comparator; improved LM339; 0 to +70 °C
AU2901	quad voltage comparator; automotive temperature range
LM2901	quad voltage comparator; −40 to +85 °C
MC3302	quad voltage comparator; −40 to +85 °C

LM193	low power dual voltage comparator; −55 to + 125 °C
LM193A	low power dual voltage comparator; improved LM193; −55 to + 125 °C
LM293	low power dual voltage comparator; −25 to +85 °C
LM293A	low power dual voltage comparator; improved LM293; −25 to +85 °C
LM393	low power dual voltage comparator; 0 to +70 °C
LM393A	low power dual voltage comparator improved LM393; 0 to +70 °C

GENERAL PURPOSE

Analog products

AU2903	dual low-power voltage comparator; automotive temperature range
LM2903	low-power dual voltage comparator; −40 to +85 °C
NE521	high speed dual differential comparator/sense amplifier; higher speed NE522; 0 to +70 °C
SE521	high speed dual differential comparator/sense amplifier; higher speed NE522; −55 to + 125 °C
NE522	high speed dual differential comparator/sense amplifier; 0 to +70 °C
NE527	voltage comparator; 0 to +70 °C
NE529	voltage comparator; high speed NE527; 0 to +70 °C
SE529	voltage comparator; high speed NE527; −55 to + 125 °C

INTERFACE

Position measurement

NE5521	linear variable differential transformer (LVDT) signal conditioner; 0 to +70 °C
SA5521	linear variable differential transformer (LVDT) signal conditioner; −40 to +85 °C
SE5521	linear variable differential transformer (LVDT) signal conditioner; −55 to + 125 °C

Peripheral drivers

NE590	addressable peripheral drivers; open-collector outputs; 0 to +70 °C
NE591	addressable peripheral drivers; open-emitter outputs; 0 to +70 °C
NE5090	addressable relay driver; 0 to +70 °C
SA5090	addressable relay driver; −40 to +85 °C
SAA1029	universal industrial logic and interface circuit
TEA1017	13-bit series-parallel converter and display driver

PHASE-LOCKED LOOPS

NE564	phase-locked loop; 5 V supply; up to 50 MHz; TTL compatible input/output; 0 to +70 °C
SE564	phase-locked loop; 5 V supply; up to 50 MHz; TTL compatible input/output; −55 to + 125 °C
NE566	function generator (programmable VCO with square and triangular wave outputs); 0 to +70 °C
SE566	function generator (programmable VCO with square and triangular wave outputs); −55 to + 125 °C
NE567	tone/frequency decoder PLL; 0 to +70 °C
SE567	tone/frequency decoder PLL; −55 to + 125 °C
NE568	phase-locked loop; up to 150 MHz; 0 to +70 °C
PC74HCT4046A	phase-locked loop with VCO
PC74HC4046A	phase-locked loop with VCO

TIMERS

ICM7555C	general purpose CMOS timer; 0 to +70 °C
ICM7555I	general purpose CMOS timer; −40 to +85 °C
ICM7555M	general purpose CMOS timer; −55 to + 125 °C
NE555	timer; 0 to +70 °C
SA555	timer; −40 to +85 °C
SE555	timer; −55 to + 125 °C
SE555C	timer; −55 to + 125 °C
NE556	dual timer; 0 to +70 °C
SA556	dual timer; −40 to +85 °C
SE556	dual timer; −55 to + 125 °C
NE556-1	dual timer; lower V_{OL} spec; 0 to +70 °C
SA556-1	dual timer; lower V_{OL} spec; −40 to +85 °C
NE558	quad timer; 0 to +70 °C

SYSTEM CONTROL

TEA5500	coded locking circuit for security systems
TEA5501	coded locking circuit for security systems (one-shot output; 6.5 k codes)

Display drivers

NE587	LED decoder/driver; for 7-segments common anode LED displays
NE594	vacuum fluorescent display driver; 8 outputs; 0 to +70 °C
SA594	vacuum fluorescent display driver; 8 outputs; −40 to +85 °C
PCF1303	18-element bar graph LCD driver; analog input
PCF2100	LCD driver; 40 segments; 1:2 multiplex rate
PCF2110	LCD driver; 60 segments and 2 LEDs; 1:2 multiplex rate
PCF2111	LCD driver; 64 segments; 1:2 multiplex rate
PCF2112	LCD driver; 32 segments; 1:1 multiplex rate
PCF2115	LCD controller/driver for 2-line × 24 character displays; character generator MUX 1:36; 32 row, 60 column; on-chip bias and V_{LCD} generation; low power
PCF8566	universal LCD driver for low multiplex rates; 1:1 to 1:4; 24 segments; I^2C-bus
PCF8567C	LCD direct mode driver with I^2C-bus interface; 32 segments
PCF8568	dot matrix LCD row driver for 1:8 or 1:16 multiplexing; on-chip LCD bias generation; I^2C-bus
PCF8569	LCD column driver for dot matrix graphic displays; 40 columns; 1:8 or 1:16 multiplex rate
PCF8576	universal LCD driver for low multiplex rates; 1:1 to 1:4; 40 segments; I^2C-bus
PCF8577C	LCD direct/duplex driver with I^2C-bus interface; 32/64 segments; different slave address; low voltage
PCF8577CA	LCD direct/duplex driver with I^2C-bus interface; 32/64 segments; different slave address; low voltage
PCF8578	LCD row/column driver for dot matrix graphic displays; 40 outputs; 1:8, 1:16, 1:24 or 1:32 multiplex rate; I^2C-bus
PCF8579	LCD column driver for dot matrix graphic displays; 40 outputs; 1:8, 1:16, 1:24 or 1:32 multiplex rate; I^2C-bus
SAA1064	4-digit LED driver with I^2C-bus interface

GENERAL PURPOSE

Motor control

NE5044	programmable seven-channel RC encoder; 0 to +70 °C
SA5570	brushless DC motor controller; −40 to +85 °C
SE5570	brushless DC motor controller; −55 to + 125 °C
TDA5040	DC motor drive circuit with magnetic-field detector
TDA5140A	brushless DC motor drive circuit; 0.85 A output current
TDA5141	brushless DC motor drive circuit; 1.8 A output current
TDA5142	brushless DC motor drive circuit; 0.15 A output current
TDA5145	brushless DC motor control circuit;bidirectional; 1.8 A output current
TDA5340	VCM and spindle driver; V_S = 5 V
TDA5341	VCM and spindle driver; V_S = 5 V; bus and FLL for speed control
TDA7072	single power driver; for CD servo systems
TDA7072A	single BTL power driver; 0.6 A output current
TDA7073	dual power driver; for CD servo systems
TDA7073A	dual BTL power driver; 0.6 A output current

GENERAL PURPOSE

Power supply ICs

SMPS CONTROLLERS

NE5560	switched-mode power supply control circuit; 0 to +70 °C
SE5560	switched-mode power supply control circuit; −55 to + 125 °C
NE5561	switched-mode power supply control circuit; low-cost; 0 to +70 °C
SE5561	switched-mode power supply control circuit; low-cost; −55 to + 125 °C
NE5562	switched-mode power supply control circuit; full featured; 0 to +70 °C
SE5562	switched-mode power supply control circuit; full featured; −55 to + 125 °C
NE5568	switched-mode power supply control circuit; low-cost; high spec NE5561; 0 to +70 °C
SG3524	SMPS controller; 0 to +70 °C
TCA280B	general purpose triggering circuit
TDA1023	proportional-control triac triggering circuit
TDA1060	control circuit for SMPS
TDA1060A	control circuit for SMPS
TDA1060B	control circuit for SMPS
TDA8380	control circuit for switched-mode power supplies
TDA8385	control IC for self-oscillating power supply (SOPS)
UC3842	current-mode pulse width modulation controller; 0 to +70 °C

VOLTAGE REGULATORS

TDA3601Q	Multiple output voltage regulator; six regulated outputs; active HIGH reset
TDA3601AQ	Multiple output voltage regulator; six regulated outputs; active LOW reset
TDA3602	Multiple output voltage regulator; three regulated outputs
µA723C	precision voltage regulator; 0 to +70 °C
µA723	precision voltage regulator; −55 to + 125 °C
UAA1300	voltage regulator with watchdog for microprocessor/controller systems

SUPPLY VOLTAGE MANAGEMENT

PCA1329	remaining energy indicator
PCF1252-0	power-fail detector and reset generator; trip voltage = 4.75 V
PCF1252-1	power-fail detector and reset generator; trip voltage = 4.55 V
PCF1252-2	power-fail detector and reset generator; trip voltage = 4.25 V
PCF1252-3	power-fail detector and reset generator; trip voltage = 4.05 V
PCF1252-4	power-fail detector and reset generator; trip voltage = 3.75 V
PCF1252-5	power-fail detector and reset generator; trip voltage = 3.55 V
PCF1252-6	power-fail detector and reset generator; trip voltage = 3.25 V
PCF1252-7	power-fail detector and reset generator; trip voltage = 3.05 V
PCF1252-8	power-fail detector and reset generator; trip voltage = 2.75 V
PCF1252-9	power-fail detector and reset generator; trip voltage = 2.55 V
SAA1500	remaining energy indicator
TEA1039	control circuit for switched-mode power supply
TEA1041	battery voltage low-level indicator
TEA1088	SMPS battery charger control circuit
TEA1100	monitor and control circuit for SMPS charging systems

APPLICATION-SPECIFIC

Clocks and watches

ANALOG CLOCKS

PCA1532	32 kHz clock circuit; bipolar motor; output cycle time = 1 s; pulse duration = 23.4 ms
PCA1534	32 kHz clock circuit; bipolar motor; output cycle time = 1 s; pulse duration = 46.8 ms
PCA1593	32 kHz clock circuit with frequency adjustment; EEPROM; bipolar motor; alarm signal repeated every 1 s; output cycle time = 1s; pulse duration = 31.25 ms
PCA1594	32 kHz clock circuit with frequency adjustment; EEPROM; bipolar motor; alarm signal repeated every 4 s; output cycle time = 1s; pulse duration = 46.8 ms
PCA1595	32 kHz clock circuit with frequency adjustment; EEPROM; bipolar motor; alarm signal repeated every 1 s; output cycle time = 1s; pulse duration = 46.8 ms
PCA1596	32 kHz clock circuit with frequency adjustment; EEPROM; bipolar motor; alarm signal repeated every 6 s; output cycle time = 1s; pulse duration = 15.6 ms
PCA1597	32 kHz clock circuit with frequency adjustment; EEPROM; bipolar motor; alarm signal repeated every 1 s; output cycle time = 1s; pulse duration = 15.6 ms

ANALOG WATCHES

PCA1260	32 kHz watch circuit with adaptive motor pulse; bipolar motor; output cycle time = 1s; pulse duration = 7.8 ms; battery end of battery life detector
PCA1261	32 kHz watch circuit with adaptive motor pulse; bipolar motor; output cycle time = 1 s; pulse duration 7.8 ms
PCA1461	32 kHz watch circuit with adaptive motor pulse; EEPROM; bipolar motor; output cycle time = 1 s; pulse duration = 7.8 ms; 100/75% drive with 1.5/2.1 V battery; battery end of life detector
PCA1462	32 kHz watch circuit with adaptive motor pulse; EEPROM; bipolar motor; output cycle time = 1 s; pulse duration = 5.8 ms; 100/75% drive with 1.5 V/2.1 V battery; battery end of life detector
PCA1463	32 kHz watch circuit with adaptive motor pulse; EEPROM; bipolar motor; output cycle time = 1 s; pulse duration = 3.9 ms; 100/75% drive with 1.5 V/2.1 V battery; battery end of life detector
PCA1465	32 kHz watch circuit with adaptive motor pulse; EEPROM; bipolar motor; output cycle time = 1 s; pulse duration = 5.8 ms; 100% drive with 1.5 V battery
PCA1466	32 kHz watch circuit with adaptive motor pulse; bipolar motor; output cycle time = 5 s; pulse duration = 5.8 ms; 100/75% drive with 1.5/2.1 V battery
PCA1482	32 kHz watch circuit with adaptive motor pulse; EEPROM; output cycle time = 1 s; pulse duration = 5.8 ms; 75% drive; battery end of life detector
PCA1483	32 kHz watch circuit with adaptive motor pulse; EEPROM; output cycle time = 1 s; pulse duration = 5.8 ms; 75% drive
PCA1487	32 kHz watch circuit with adaptive motor pulse; EEPROM; output cycle time = 1 s; pulse duration = 7.8 ms; 75% drive; battery end of life detector
PCA1602	32 kHz watch circuit with EEPROM; output cycle time = 1 s; pulse duration = 7.8 ms; 75% drive; silver oxide battery voltage detector
PCA1603	32 kHz watch circuit with EEPROM; output cycle time = 20 s; pulse duration = 7.8 ms; 100% drive; silver oxide battery voltage detector
PCA1604	32 kHz watch circuit with EEPROM; output cycle time = 5 s; pulse duration = 7.8 ms; 75% drive; silver oxide battery voltage detector
PCA1605	32 kHz watch circuit with EEPROM; output cycle time = 20 s; pulse duration = 4.8 ms; 75% drive; silver oxide battery voltage detector
PCA1606	32 kHz watch circuit with EEPROM; output cycle time = 10 s; pulse duration = 6.8 ms; 100% drive; silver oxide battery voltage detector
PCA1607	32 kHz watch circuit with EEPROM; output cycle time = 5 s; pulse duration = 5.8 ms; 100/75% drive with 1.5/2.1 V battery
PCA1608	32 kHz watch circuit with EEPROM; output cycle time = 5 s; pulse duration = 7.8 ms; 100/75% drive with 1.5/2.1 V battery
PCA1611	32 kHz watch circuit with EEPROM; output cycle time = 1 s; pulse duration = 6.8 ms; 75% drive; silver oxide battery voltage detector
PCA1624	32 kHz watch circuit with EEPROM; output cycle time = 12 s; pulse duration = 3.9 ms; 75/56% drive with 1.5/2.1 V battery
PCA1625	32 kHz watch circuit with EEPROM; output cycle time = 5 s; pulse duration = 5.8 ms; 75% drive
PCA1626	32 kHz watch circuit with EEPROM; output cycle time = 20 s; pulse duration = 5.8 ms; 100% drive; silver oxide battery detector

APPLICATION-SPECIFIC

Clocks and watches

PCA1627	32 kHz watch circuit with EEPROM; output cycle time = 20 s; pulse duration = 5.8 ms; 100/75% drive with 1.5/2.1 V battery; silver oxide battery detector
PCA1629	32 kHz watch circuit with EEPROM; output cycle time = 5 s; pulse duration = 5.8 ms; 75% drive; silver oxide battery detector
PCA1672	32 kHz watch circuit; output cycle time = 1 s; pulse duration = 7.8 ms; 56% drive with 3 V lithium battery
PCA1673	32 kHz watch circuit; output cycle time = 1 s; pulse duration = 5.8 ms; 56% drive with 3 V lithium battery
PCA1675	32 kHz watch circuit; output cycle time = 1/16 s; pulse duration = 5.8 ms; 100% drive; silver oxide or 3 V lithium battery
PCA1677	32 kHz watch circuit; output cycle time = 10 s; pulse duration = 7.8 ms; 100% drive with 1.5 V battery

DIGITAL CLOCKS

PCF1171C	4.19 MHz digital LCD car clock; 4-digits
PCF1172C	4.19 MHz digital LCD car clock; 3-1/2 digits
PCF1174C	4.19 MHz 4-digit static-LCD car clock; EEPROM
PCF1175C	4.19 MHz 4-digit duplex-LCD car clock; EEPROM
PCF1178C	4.19 MHz 4-digit static-LCD car clock; EEPROM; mirrored version of PCF1175; different colon and set frequency
PCF8573	clock calendar with serial I/O; I^2C-bus; timebase from 32 kHz crystal
PCF8583	clock calendar with 256 x 8-bit static RAM; I^2C-bus; 32 kHz or 50 Hz timebase

APPLICATION-SPECIFIC

Data communication

BUS CONTROL/LANs

MEB3000	PDV-bus controller (DLC)
NE502A	Ethernet encoder/decoder; 0 to +70 °C
NE8392A	coaxial transceiver interface (CTI) for Ethernet (10base5) and Thin Ethernet (10base2) local area networks; 0 to +70 °C
NE86C92	twisted-pair transceiver interface; IEEE 802.3 10BASE-T Ethernet spec.; 0 to +70 °C
NE86950	EtherStar™ Ethernet controller; 0 to +70 °C
PCA82C200	stand-alone CAN Controller (controller area network serial link) (PSCC) for automotive and other applications
PCD8584	I^{2}C-bus controller

LINE DRIVERS/RECEIVERS

AM26LS31	quad high-speed differential line driver; 0 to +70 °C
AM26LS32	quad high-speed differential line receiver; 0 to +70 °C
AM26LS33	quad high-speed differential line receiver; 0 to +70 °C
MC1488	quad line driver; 0 to +70 °C
MC1489	quad line receiver; 0 to +70 °C
MC1489A	quad line receiver; MC1489 with higher input threshold voltage; 0 to +70 °C
MC145406	EIA-232-D and CCITT V.28 driver/receiver; 0 to +70 °C
NE5170	octal line driver; 0 to +70 °C
NE5180	octal differential line receiver with input noise filter; 0 to +70 °C
NE5181	octal differential line receiver; 0 to +70 °C
SAA1045	line driver/detector for digital data bus (D^{2}B) (built-in filter)

PARITY CONTROL

N8X01A	CRC generator/checker
9401	CRC generator/checker

UARTs/USARTs/MODEMS

NE5050	power line modem; 0 to +70 °C
NE5080	high-speed FSK modem transmitter; 0 to +70 °C
NE5081	high-speed FSK modem receiver; 0 to +70 °C
SCC2691	universal asynchronous receiver/transmitter (UART)
SCC2692	dual asynchronous receiver/transmitter (DUART)
SC26C92	dual asynchronous receiver/transmitter (DUART); improved SCC2692
SCC68692	dual asynchronous receiver/transmitter (DUART)
SC26C94	quad universal asynchronous receiver/transmitter (QUART)
SC68C94	quad universal asynchronous receiver/transmitter (QUART)
SCC2698	octal universal asynchronous receiver/transmitter (octal UART)
SCN2651	programmable communications controller (PCI)
SCN2652	multi-protocol communications controller (MPCC)
SCN68652	multi-protocol communications controller (MPCC)
SCN2661	enhanced programmable communications interface (EPCI)
SCN68661	enhanced programmable communications interface (EPCI)
SCN2681	dual asynchronous receiver/transmitter (DUART)
SCN68681	dual asynchronous receiver/transmitter (DUART)
SCN26562	dual universal serial communications controller (DUSCC); NMOS
SC26C562	dual universal serial communications controller (DUSCC); CMOS
SCN68562	dual universal serial communications controller (DUSCC); NMOS
SC68C562	dual universal serial communications controller (DUSCC); CMOS
SC26C460	input/output processor (IOP)

PRESCALERS

NE701	devide by 128/129 - 64/65 dual modulus low-power ECL prescaler; 0 to +70 °C
SA701	devide by 128/129 - 64/65 dual modulus low-power ECL prescaler; −40 to +85 °C
NE702	devide by 64/65/72 triple modulus low-power ECL prescaler; 0 to +70 °C
SA702	devide by 64/65/72 triple modulus low-power ECL prescaler; −40 to +85 °C
NE703	devide by 128/129/144 triple modulus low-power ECL prescaler; 0 to +70 °C
SA703	devide by 128/129/144 triple modulus low-power ECL prescaler; −40 to +85 °C

RF AMPLIFIERS

NE5200	dual gain stage RF amplifier; 0 to +70 °C
SA5200	dual gain stage RF amplifier; −40 to +85 °C
NE5204A	wide band high frequency amplifier; 350 MHz; 0 to +70 °C
SA5204A	wide band high-frequency amplifier; 350 MHz; −40 to +85 °C
NE5205A	wide band high frequency amplifier; 550 MHz; 0 to +70 °C
SA5205A	wide band high-frequency amplifier; 550 MHz;; −40 to +85 °C
NE5209	850 MHz voltage-controlled amplifier; 0 to +70 °C
SA5209	850 MHz voltage-controlled amplifier; −40 to +85 °C
NE5219	700 MHz voltage-controlled amplifier; 0 to +70 °C
SA5219	700 MHz voltage-controlled amplifier; −40 to +85 °C
NE5539	350 MHz operational amplifier; 0 to +70 °C
SE5539	350 MHz operational amplifier; −55 to + 12

FREQUENCY SYNTHESIZERS

TDD1742	low-power frequency synthesizer (LOPSY)
UMA1014	low-power synthesizer for mobile radio communications; 1 GHz
UMA1016	frequency synthesizer for cordless telephones; 1 GHz
UMF1005	dual low-power frequency synthesizer; 30 MHz
UMF1009	low-power frequency synthesizer; 18 MHz; CMOS; I^{2}C-bus

MIXERS/MODULATORS/DEMODULATORS

MC1496	balanced modulator/demodulator; 0 to +70 °C
MC1596	balanced modulator/demodulator; −55 to + 125 °C
NE600	RF gain-stage and mixer; 1 GHz; 0 to +70 °C
SA600	RF gain-stage and mixer; 1 GHz; −40 to +85 °C
NE602A	double-balanced mixer and oscillator; 0 to +70 °C
SA602A	double-balanced mixer and oscillator; −40 to +85 °C
NE612A	double-balanced mixer and oscillator; relaxed 602A spec.; 0 to +70 °C
SA612A	double-balanced mixer and oscillator; relaxed 602A spec.; −40 to +85 °C

IF SYSTEMS

MC3361	low-power FM IF system; −40 to +85 °C
NE604A	high performance low-power FM IF system; 0 to +70 °C
SA604A	high performance low-power FM IF system; −40 to +85 °C
NE614A	low-power FM IF system; relaxed 604A spec.; 0 to +70 °C
SA614A	low-power FM IF system; relaxed 604A spec.; −40 to +85 °C
NE624	high performance low-power FM IF system; 604A with faster RSSI response
SA624	high performance low-power FM IF system; 604A with faster RSSI response
NE605	high performance low-power mixer FM IF system; 0 to +70 °C
SA605	high performance low-power mixer FM IF system; −40 to +85 °C
NE615	high performance low-power mixer FM IF system; relaxed 605 spec.; 0 to +70 °C
SA615	high performance low-power mixer FM IF system; relaxed 605 spec.; −40 to +85 °C

NE625	high performance low-power mixer FM IF system; 605 with faster RSSI response
SA625	high performance low-power mixer FM IF system; 605 with faster RSSI response
NE606	low-voltage high performance mixer FM IF system; 0 to +70 °C
SA606	low-voltage high performance mixer FM IF system; −40 to +85 °C
NE616	low-voltage high performance mixer FM IF system; relaxed 606 spec.; 0 to +70 °C
SA616	low-voltage high performance mixer FM IF system; relaxed 606 spec.; −40 to +85 °C
NE607	low-voltage high performance mixer FM IF system; 606 + frequency check; 0 to +70 °C
SA607	low-voltage high performance mixer FM IF system; 606 + frequency check; −40 to +85 °C
NE617	low-voltage high performance mixer FM IF system; relaxed 607 spec.; 0 to +70 °C
SA617	low-voltage high performance mixer FM IF system; relaxed 607 spec.; −40 to +85 °C
NE608	low-voltage high performance mixer FM IF system; 607 with reverse phase limiter output
SA608	low-voltage high performance mixer FM IF system; 607 with reverse phase limiter output
NE618	low-voltage high performance mixer FM IF system; 607 with reverse phase limiter output
SA618	low-voltage high performance mixer FM IF system; 607 with reverse phase limiter output

AUDIO/DATA PROCESSORS

OM4707/4708	AMPS + TACS cellular radio chipset evaluation kits
OM4709	source code software package for AMPS + TACS cellular radio chipset
NE5750	audio processor system for RF communication; 0 to +70 °C
SA5750	audio processor system for RF communication; −40 to +85 °C
NE5751	audio processor system with I^2C-bus for RF communication; 0 to +70 °C
SA5751	audio processor system with I^2C-bus for RF communication; −40 to +85 °C
UMF1000	data processor for cellular radio (DPROC); supports AMPS and TACS; I^2C-bus

COMPANDORS

NE570	compandor; 0 to +70 °C
NE571	compandor; relaxed 570 spec.; 0 to +70 °C
SA571	compandor; relaxed 570 spec.; −40 to +85 °C
NE572	programmable analog compandor; 0 to +70 °C
SA572	programmable analog compandor; −40 to +85 °C
NE575	low-voltage dual expander/single compandor or automatic level controller; 0 to +70 °C
SA575	low-voltage dual expander/single compandor or automatic level controller; −40 to +85 °C
NE575A	low-voltage dual expander/single compandor or automatic level controller; 0 to +70 °C
NE576	low-power compandor; low voltage; few external components; 0 to +70 °C
SA576	low-power compandor; low voltage; few external components; −40 to +85 °C
NE577	low-power compandor; 576 with programmable unity gain
SA577	low-power compandor; 576 with programmable unity gain
NE578	low-power compandor; 577 with power-down (170 µA) and DTMF summing capability
SA578	low-power compandor; 577 with power-down (170 µA) and DTMF summing capability

COMPLEMENTARY DEVICES

NE630	single-pole double-throw switch; DC to 1 GHz; 0 to +70 °C
SA630	single-pole double-throw switch; DC to 1 GHz; −40 to +85 °C

TELEPHONE SETS

Diallers

DTMF diallers

PCD3311A	DTMF/32-single tone generator with parallel data inputs; I^2C-bus
PCD3311C	DTMF/modem/musical-tone generator; parallel data input; I^2C bus
PCD3312C	DTMF/modem/musical-tone generator; I^2C bus
PCD4420	DTMF dialler with redial; 4×4 keypad; 23-digit redial
PCD4421	DTMF dialler with redial; 4×5 keypad; 23-digit redial

Pulse diallers

OM1036C	pulse dialler with redial; 3×4 keypad; 23 digits redial; mark/space ratio 2:1 or 3:2
PCD3320C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; several mute signals; mark/space ratio 3:2
PCD3321C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; two automatic access pauses; mark/space ratio 3:2 and 2:1
PCD3322C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; strobe output
PCD3324C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; one automatic access pause
PCD3325C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; manual access pause control
PCD3326C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; mark/space ratio 2:1
PCD3327C	pulse dialler circuit with redial; 3×4 keypad; 23 digits redial; variant of PCD3325C for ceramic resonator; automatic reset of access pause

Pulse/DTMF diallers

PCD3310	pulse and DTMF dialler with redial; 4×5 keypad; pulse dialling mark/space ratio 2:1; PABX register; notepad; flash; access pause control
PCD3310A	pulse and DTMF dialler with redial; variant of PCD3310 with mark/space ratio 3:2
PCD3310C	pulse and DTMF dialler with redial; variant of PCD3310; dialling mode indicator output
PCD3310E	pulse and DTMF dialler with redial; variant of PCD3310 with also 20 Hz pulse dialling
PCD3310F	pulse and DTMF dialler with redial; variant of PCD3310 with DTMF timing of 60/90 ms
PCD3310G	pulse and DTMF dialler with redial; variant of PCD3310 in which the '*' and '#' keys do not transmit a tone during switch-over to data mode
PCD3310H	pulse and DTMF dialler with redial; variant of PCD3310 in which M1 is replaced by M2
PCD4410	pulse and DTMF dialler with redial; 3×5 keypad; 23 digits redial
PCD4413	pulse and DTMF dialler; 3×5 keypad; flash time 100 ms
PCD4413A	pulse and DTMF dialler; 3×5 keypad; PCD4413 with flash time of 254 ms
PCD4415	pulse and DTMF dialler with redial; 3×5 keypad; 23 digits redial; flash time 100 ms
PCD4415A	pulse and DTMF dialler with redial; 3×5 keypad; 23 digits redial; flash time 254 ms

Repertory diallers

PCD3315/503	PCD3315/502 plus 10 name keys
PCD3315/512	PCD3315/503 plus 16 and 20 Hz options
PCD3315/513	PCD3315/503 plus Norwegian and Swedish key options
PCD3341	CMOS repertory dialler telephone set controller; 4×4 keypad; 18-digit auto dial; 10 number storage; LCD control; I^2C bus
PCD3344/004	up to 20 number repertory pulse/DTMF dialler with redial (max. 30 digits); music on hold; LCD control; specification options
PCD3344/011	up to 20 numbers of max 36 digits repertory pulse/DTMF dialler with redial; on-hook dialling; electronic note pad
PCD3344/047	up to 13 numbers of max 36 digits repertory pulse/DTMF dialler with redial;
PCD3349/018	up to 80 numbers of max. 20 digits feature phone pulse/DTMF dialler

Repertory diallers/ringers

PCD3330A	universal repertory dialler/ringer

Tone ringers

PCD3360	programmable multi-tone telephone ringer

APPLICATION-SPECIFIC

Telecommunication

Speech transmission

TEA1060	versatile telephone transmission circuit with dialler interface; low impedance input for dynamic or magnetic microphone
TEA1061	versatile telephone transmission circuit with dialler interface; high impedance input for electret or piezoelectric microphone
TEA1062	low-voltage telephone transmission circuit with dialler interface; high impedance input for dynamic, magnetic, piezoelectric or electret microphone
TEA1062A	low-voltage speech transmission circuit with dialler interface
TEA1063	low-voltage versatile telephone transmission circuit with dialler interface and transmit level dynamic limiting; 23 to 48 dB earpiece output
TEA1064A	low-voltage versatile telephone transmission circuit with dialler interface and transmit level dynamic limiting; 20 to 45 dB earpiece output
TEA1065	versatile telephone transmission circuit with dialler interface; high impedance input for electret or piezoelectric microphone; electronic switching between dialling and speech
TEA1066	versatile telephone transmission circuit with dialler interface
TEA1067	low-voltage versatile telephone transmission circuit with dialler interface; supports all microphone types
TEA1068	versatile telephone transmission circuit with dialler interface; supports all microphone types

Call progress ICs

NE5900	call progress decoder
TEA1082	call progress monitor for line-powered telephone sets
TEA1083	call progress monitor for line-powered telephone sets
TEA1083A	call progress monitor for line-powered telephone sets

Listening-in

TEA1085	listening-in circuit for line-powered telephone sets; toggle function mute
TEA1085A	listening-in circuit for line-powered telephone sets; logic level mute

Microcontrollers

see also **Microcontrollers** section

PCD3300 family of 8-bit CMOS microcontrollers

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
3315A	1.5k	160	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer	1.8 to 6 V supply voltage
3343A	3k	224	16	two 8-bit I/O ports; one 3-bit I/O port; 8-bit counter/ timer; I^2C-bus	1.8 to 6 V supply voltage
3344A	2k	224	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3346	4k	128	10	two 8-bit I/O ports; one 3-bit I/O port; two 8-bit counter/timers; I^2C-bus	2.5 to 6 V supply voltage
3347	1.5k	64	3.58	one 8-bit I/O port; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3348A	8k	256	16	two 8-bit I/O ports; one 3-bit I/O port; two 8-bit counter/timers; I^2C-bus	1.8 to 6 V supply voltage
3349A	4k	224	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3350A	8k 256 EEPROM	256	16	four 8-bit I/O ports; one 2-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage

generic type	ROM/ EPROM	RAM	speed (MHz)	major features	remarks
3351A	2k 128 EEPROM	64	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3352A	4k	128	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3353A	6k	128	3.58	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/ timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
3354A	8k 256 EEPROM	256	16	four 8-bit I/O ports; one 4-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage

Power supply ICs

see also **Power supply ICs** section

TEA1081	supply circuit with power-down for telephone set peripherals

CORDLESS TELEPHONES

We have several preprogrammed microcontrollers for cordless applications; please contact us.

see also **RF communication** section

PCD4440	analog voice scrambler/descrambler; I^{2}C-bus

RADIO PAGERS

PCA5000A	paging decoder; POCSAG paging systems; supports alert-only and display pagers
PCF5001	POCSAG decoder
UAA2050	low power digital UHF paging receiver
UAA2080	advanced pager receiver; 25 to 512 MHz

MISCELLANEOUS ICs

See **Support circuits for Telecom, Radio/Audio and Video** section for:
- Clock/calendar ICs
- I^{2}C-bus I/O expanders
- Memories

See **Display drivers** section

Radio/Audio

RADIO RECEIVERS

AM receivers	
TDA1072A	AM receiver circuit; for car radios
TDA1572	AM receiver; for AM stereo car radios
TEA5551	single-chip AM radio; dual AF amplifier; for pocket receivers with headphones
TEA6200	AM upconversion radio receiver; 10.7 MHz IF

AM/FM receivers	
TEA5570	RF/IF circuit for AM/FM radio
TEA5591	AM/FM radio receiver circuit
TEA5591A	AM/FM radio receiver circuit
TEA5592	AM/FM radio receiver circuit
TEA5594	AM/FM radio receiver circuit; for electronically-tuned radios
TEA5710	AM/FM radio receiver circuit

FM receivers	
CA3089	FM IF system
TDA1574	integrated FM tuner for radio receivers
TDA1575	FM tuner circuit; for radio receivers
TDA1576	FM/IF amplifier/demodulator circuit
TDA1595	FM front-end for car radios (FM tuner and FM-IF amplifier)
TDA1596	IF amplifier/demodulator for FM radio receivers
TDA1599	IF amplifier/demodulator for FM radio receivers
TDA7000	FM radio circuit
TDA7010	FM radio circuit
TDA7021	FM radio circuit for MTS; stereo/mono; for low voltage micro tuning system (MTS)
TDA7088	FM receiver circuit for battery supply; with search tuning
TDB1080	IF limiting amplifier, FM detector and audio amplifier
TEA6100	FM/IF system and microcomputer-based tuning interface; I^2C-bus

Frequency/voltage synthesizers	
HEF4750V	frequency synthesizer
SAA1057	radio tuning PLL frequency synthesizer
TDA7030	low voltage micro tuning system (MTS)
TDD1742	low power frequency synthesizer (LOPSY)
TSA6057	radio tuning PLL frequency synthesizer; I^2C-bus

ARI and RDS signal decoders	
SAA6579	radio data system demodulator (RDS); 57 kHz filter
SAF7579	radio data system (RDS) demodulator
TDA1579	decoder for traffic warning (VWF) radio transmissions; AM carriers; ARI system

Antenna diversity	
TEA6101	Antenna diversity circuit

Satellite radio receiver circuits	
SAA7500	digital satellite radio broadcasting tuner decoder (SAT-2)

Stereo decoders	
TDA1578A	time multiplex PLL stereo decoder for hi-fi and car radios
TDA1591	PLL stereo decoder and noise blanker; interference suppression
TDA1592	PLL stereo decoder and noise blanker; interference suppression
TDA1598	time multiplex PLL stereo decoder for hi-fi and car radios
TDA7040	low-voltage PLL stereo decoder
TEA5580	PLL stereo decoder; medium-fi and car radios
TEA5581	PLL stereo decoder; source selector switch; medium-fi and car radios

Interference suppressors

TDA1001B	interference and noise suppression circuit for FM receivers
TDA1591	PLL stereo decoder and noise blanker; interference suppression
TDA1592	PLL stereo decoder and noise blanker; interference suppression

AUDIO CIRCUITS

Bus-controlled

TEA6300	car radio preamplifier and source selector with sound and fader controls; I^2C bus
TEA6310	sound fader control circuit; I^2C-bus
TEA6320	sound fader control circuit; I^2C-bus
TEA6330	sound fader control circuit for car radios; I^2C-bus
TEA6360	Five-band equalizer; I^2C-bus

DC-controlled

TDA1029	signal-sources switch; 4 x two channels
TDA1074A	dual tandem electronic potentiometer circuit
TDA1524A	stereo tone/volume control circuit
TDA1526	stereo tone/volume control circuit

Audio amplifiers

TDA1010A	6 W audio power amplifier for in car applications/10 W audio power amplifier in mains-fed applications
TDA1011	2 to 6 W audio power amplifier; with preamplifier
TDA1013B	4 W audio power amplifier with DC volume control
TDA1015	1 to 4 W audio power amplifier; with preamplifier
TDA1015T	0.5 W audio power amplifier; with preamplifier
TDA1016	recording/playback and 2 W audio power amplifier; preamplifier; automatic level control; short-circuit and thermal protection
TDA1020	12 W car radio power amplifier; with preamplifier
TDA1510AQ	24 W BTL or 2x12 W stereo car radio power amplifier; externally adjustable gain
TDA1514A	50 W high-performance hi-fi amplifier; mute/standby
TDA1515BQ	24 W BTL or 2x12 W stereo car radio power amplifier; loudspeaker protection; externally adjustable gain
TDA1516BQ	22 W BTL or 2x11 W stereo car radio power amplifier; 20/26 dB gain stereo/BTL
TDA1516CQ	22 W BTL car radio power amplifier; 20 dB gain
TDA1517	2x6 W stereo car radio power amplifier; 20 dB gain
TDA1518BQ	22 W BTL or 2x11 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1519	2x6 W stereo car radio power amplifier; 40 dB gain
TDA1519A	22 W BTL or 2x11 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1519B	12 W BTL or 2x6 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1521	2x12 W hi-fi stereo audio power amplifier; automatic mute
TDA1521A	2x6 W hi-fi stereo audio power amplifier; automatic mute
TDA1521Q	2x12 W hi-fi stereo audio power amplifier; automatic mute
TDA1522	stereo playback amplifier/equalizer with mute switch
TDA1551Q	2 x 22 W BTL car radio power amplifier with diagnostic facility; I^2C-bus; 20/26 dB gain stereo/BTL
TDA1552Q	2x22 W BTL stereo car radio power amplifier; double BTL amplifier
TDA1553Q	2x22 W BTL stereo car power amplifier with loudspeaker protection; 26 dB gain
TDA1553AQ	2x22 W BTL stereo car power amplifier; loudspeaker protection; mute/standby switch
TDA1554Q	4x11 W single-ended or 2x22 W power amplifier
TDA1555Q	4x11 W single-ended or 2x22 W power amplifier with distortion detector
TDA1556Q	2x22 W stereo BTL differential amplifier; loudspeaker protection; 26 dB gain
TDA1557Q	2x22 W stereo BTL car radio power amplifier with speaker protection; loudspeaker protection; 46 dB gain
TDA1558Q	2x22 W or 4x11 W single-ended car radio power amplifier; 40/46 dB gain stereo/BTL
TDA2611A	5 W audio power amplifier; adjustable input impedance
TDA2613	6 W hi-fi audio power amplifier; automatic mute
TDA2614	6 W hi-fi audio power amplifier; automatic mute
TDA2615	2x6 W hi-fi audio power amplifier; automatic mute

TDA2616	2x12 W hi-fi audio power amplifiers with mute; SIL9P
TDA2616Q	2x12 W hi-fi audio power amplifiers with mute; DBS9P
TDA7050	low-voltage mono/stereo power amplifier; 150 mW BTL or 2x75 mW
TDA7052	1 W BTL mono audio amplifier
TDA7052A	1 W BTL mono audio amplifier with DC volume control
TDA7052AT	0.5 W BTL mono audio amplifier with DC volume control
TDA7053	2x1 W portable/mains-fed stereo power amplifier
TDA7056	3 W mono BTL audio output amplifier
TDA7056A	3 W mono BTL audio output amplifier with DC volume control
TDA7057Q	2x3 W stereo BTL audio output amplifier
TDA7072	single power driver; for CD servo systems
TDA7072A	single BTL power driver; 0.6 A output current
TDA7073	dual power driver; for CD servo systems
TDA7073A	dual BTL power driver; 0.6 A output current

Dolby circuits

TEA0655	dual Dolby B-type noise reduction circuit for playback applications; headphone amplifier
TEA0657	dual Dolby B-type noise reduction circuit
TEA0665	Dolby B and C type noise reduction circuit; preamplifier; electronic switch
TEA0675	Dolby B-type noise reduction circuit with music search; head amplifier; head switch

Data conversion; ADCs, DACs

SAA7322	stereo mid-performance bitstream conversion DAC; relaxed spec
SAA7323	stereo mid-performance bitstream conversion DAC; full spec
SAA7350	stereo high-performance bitstream conversion DAC
SAA7350A	stereo high-performance bitstream conversion DAC; improved digital silence
SAA7351	stereo high-performance bitstream conversion DAC
SAA7360	bitstream conversion stereo ADC for digital audio
TDA1310	continuous calibration DAC
TDA1311	continuous calibration DAC
TDA1312	continuous calibration DAC
TDA1534	14-bit ADC
TDA1541	dual 16-bit DAC
TDA1541A	dual 16-bit DAC
TDA1541A/R1	dual 16-bit DAC
TDA1541A/S1	dual 16-bit DAC; single crown
TDA1541A/S2	dual 16-bit DAC; double crown
TDA1543	dual 16-bit DAC (economy version) (I^2S input format)
TDA1543A	dual 16-bit economy DAC (economy version) (Japanese input format)
TDA1544	stereo low-noise 16-bit DAC
TDA1545	continuous calibration DAC; 16-bit
TDA1547	dual top-performance bitstream DAC

Compandors
See **Radio communication** section

Digital audio systems

PCF5020P/A	DSP for digital audio; scratch suppression/room simulation/equalization
SAA7210	decoder for Compact Disc (second generation)
SAA7220P/B	digital filter and interpolator for Compact Disc (second generation)
SAA7220P/C	digital filter and interpolator for digital audio (satellite version)
SAA7274	audio digital input circuit (ADIC)
SAA7310	CMOS decoder for Compact Disc systems
SAA7341	CMOS decoder for Compact Disc with digital filter and DAC
SAA7345	CMOS decoder for Compact Disc with SRAM and digital filter
TDA1301	digital servo control for 2-stage 3-spot CD mechanism
TDA1302A	diode amplifier laser supply
TDA1307	high-end digital filter
TDA1535B	mono sample-and-hold

TDA1542	active element for post filtering; dual channel; for Compact Disc
TDA7072	single power driver; for CD servo systems
TDA7072A	single power driver; for CD servo systems; short-circuit protected
TDA7073	dual power driver; for CD servo systems
TDA7073A	dual power driver; for CD servo systems; short-circuit protected
TDA8808	photo-diode signal processor for Compact Disc players
TDA8808A	photo-diode signal processor for Compact Disc players
TDA8809	radial error signal processor for Compact Disc players
TEA7650	video signal processor for CD-video/laser vision players
TDA8900	photo diode signal and radial error processor for Compact Disc

Audio cassette recorder circuits

TDA1602A	double-deck playback/record IC (DDPR); stereo; for high quality 12 V portables; performs all recorder functions

POWER SUPPLY ICs

See also **Power supply ICs** section

Voltage stabilizers

TDA3601Q	Multiple output voltage regulator
TDA3601AQ	Multiple output voltage regulator
TDA3602	Multiple output voltage regulator

Supply voltage management

PCA1329	remaining energy indicator
SAA1500	remaining energy indicator
TEA1041	battery voltage low-level indicator
TEA1088	SMPS battery charger control circuit
TEA1100	monitor and control circuit for SMPS charging systems

MISCELLANEOUS ICs

See **Support circuits for Telecom, Radio/Audio and Video** section for:
- Clock/calendar ICs
- I^{2}C-bus I/O expanders
- Memories
- Remote controllers

See **Display drivers** section

TUNING and TUNER ICs

Tuning

SAB3035	computer interface for tuning and control (CITAC); 8 DACs; I^2C-bus
SAB3036	computer interface for tuning and control (CITAC); I^2C-bus
SAB3037	computer interface for tuning and control (CITAC); 4 DACs; I^2C-bus
SAB6456	sensitive 1 GHz divide-by-64/divide-by-256 switchable prescaler; 70 MHz to 1 GHz input frequency
SAB6456A	sensitive 1.3 GHz divide-by-64/divide-by-256 switchable prescaler
SAB6457A	divide-by-64/divide-by-256 switchable prescaler
SAB8726	sensitive 2.6 GHz divide-by-2 prescaler; 1 GHz to 2.6 GHz input frequency
TSA5511	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 8 bus-controlled ports
TSA5511T	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 5 bus-controlled ports
TSA5512	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 8 bus-controlled ports
TSA5512T	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 6 bus-controlled ports
TSA5514	1.3 GHz bidirectional I^2C-bus controlled synthesizer
TSA5515	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 3 bus-controlled ports

Tuner

SAA1300	tuner switching circuit; I^2C-bus; five 85 mA outputs
TDA5030A	TV VHF mixer/oscillator/UHF preamplifier
TDA5330	VHF, UHF and hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5331	VHF, UHF and hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5332	double mixer/oscillator for TV and VCR tuners
TDA5333	double mixer/oscillator for TV and VCR tuners
TDA5630	3-band mixer oscillator; 9 V
TDA5631	3-band mixer oscillator; 9 V; TDA5630 with reversed pinning

VISION AND SOUND IF ICs

Vision IF demodulators

TDA2549	IF amplifier and demodulator for multistandard TV receivers
TDA3840	TV IF amplifier and demodulator with TV signal identification
TDA3841	TV IF amplifier and demodulator
TDA3842	multistandard TV IF amplifier and demodulator with TV signal identification
TDA3850	multistandard TV IF amplifier and demodulator (MAC incl.) with input source switch and TV signal identification
TDA3851	multistandard TV IF amplifier and demodulator with input source switch
TDA3852	multistandard TV IF amplifier and demodulator (MAC incl.) with TV signal identification
TDA3853	TV IF amplifier and demodulator with TV signal identification
TDA8340	television IF amplifier and demodulator; n-p-n tuners; DIL16
TDA8340Q	television IF amplifier and demodulator; n-p-n tuners; QUIL16
TDA8341	television IF amplifier and demodulator; p-n-p tuners; DIL16
TDA8341Q	television IF amplifier and demodulator; p-n-p tuners; QUIL16
TDA8349A	multistandard IF amplifier and demodulator
TDA9800	TV IF amplifier and PLL-demodulator with FM sound PLL demodulator
TDA9802	multistandard TV IF amplifier and PLL-demodulator with FM sound PLL demodulator
TDA9803	multistandard TV IF amplifier and PLL-demodulator

Sound IF

QSS demodulators

TDA2545A	quasi-split-sound circuit; gain-controlled IF amplifier
TDA2546A	quasi-split-sound circuit with 5,5 MHz demodulation
TDA2556	quasi-split-sound circuit with dual sound demodulators; FM
TDA2558	quasi-split-sound circuit with dual FM sound demodulators
TDA3845	quasi-split-sound circuit and AM demodulator; supports FM/AM sound
TDA3856	quasi-split-sound processor for all standards; supports FM/AM sound
TDA3857	quasi-split-sound processor with two FM demodulators; supports all FM TV sound standards;

TDA3858	quasi-split-sound processor for all standards; supports AM/FM sound
TDA3866	quasi-split-sound processor for all standards;
TDA3867	as TDA3857
TDA3868	quasi-split sound processor for all standards

AM demodulators

TDA2543	AM sound IF circuit for French standard; supports L and L' standards
TDA3843	sound-IF circuit for TV AM-sound standard L and L'
TDA9830	sound-IF circuit for TV AM-sound standard L and L'; audio source switch

FM demodulators

TBA120U	sound IF amplifier/demodulator for TV; FM demodulator; AF amplifier
TDA2555	dual TV sound demodulator circuit; FM demodulator; 8-stage limiting amplifier
TDA2557	dual TV sound demodulator circuit; FM demodulator; 5-stage limiting amplifier
TDA3825	single FM TV-sound demodulator circuit; external AF input and mute
TDA3826	single FM TV-sound demodulator circuit; with mute and 6 dB AF amplifier
TDA3827	TV-sound demodulator circuit with SCART switches and AF control
TDA9820	multi standard/dual channel TV FM intercarrier sound demodulator; FM-PLL
TDA9821	dual channel TV FM-PLL intercarrier sound demodulator

NICAM circuits

TDA8732	NICAM-728 demodulator (NIDEM); supports PAL B, G and I

SOUND ICs

Sound decoding

Stereo decoder/dual language

TDA2795	TV stereo/dual sound identification decoder
TDA3800GS	stereo/dual TV sound processor; static selection
TDA3803A	stereo/dual TV sound decoder circuit
TDA3830	BTSC-stereo/SAP/DBX decoder
TDA3833	BTSC stereo/SAP/DBX decoder and DBX expander
TDA8415	TV and VTR stereo/dual sound processor with integrated filters and I^{2}C-bus control; function and software compatible with TDA8405
TDA8416	TV and VTR stereo/dual sound processor with integrated filters and I^{2}C-bus control; with 2 slave addresses
TDA8417	TV and VTR stereo/dual sound processor with integrated filters and I^{2}C-bus control
TDA9840	stereo/dual sound processor with digital identification; I^{2}C-bus
TDA9845	TV and VTR stereo/dual sound processor with integrated filters
TEA5582	PLL stereo decoder (BTSC sound system)

NICAM

SAA7280	Terrestrial digital sound decoder (TDSD); NICAM 728 decoder; I^{2}C-bus
SAA7282	NICAM decoder including audio DACs (TDSD2)

Sound control

See also **Radio/Audio** section

SAA1099	microprocessor controlled stereo sound generator for sound effects and music synthesis; six frequency generators; two noise generators; twelve amplitude and two envelope controllers
TDA1029	signal-sources switch; dual 4-input unity gain AF channels
TDA3810	spatial, stereo and pseudo-stereo sound circuit
TDA8420	hi-fi stereo audio processor; I^{2}C-bus
TDA8421	hi-fi stereo audio processor; I^{2}C-bus
TDA8425	hi-fi stereo audio processor; I^{2}C-bus
TDA8426	hi-fi stereo audio processor; I^{2}C-bus
TDA9860	universal hi-fi audio processor for TV sets

Sound ADCs and DACs

See also **Radio/Audio** section

PCF8591	8-bit A/D and D/C converter; I^{2}C-bus; programmable bus address; four multiplexed analogue inputs; one analogue output
SAD1009	universal DAC (UDAC); serial input and output for 16-bit words; 7 PWM outputs; 9 programmable output ports
TDA1534	14-bit analog-to-digital converter (ADC); −84 dB THD; 86 dB S/N ratio

Sound output

See **Radio/Audio** section

VISION ICs

Colour decoders and video control

SAA7151	digital multistandard decoder 2 (DMSD2): 8-bit true one-chip multistandard/CCIR 601; I^{2}C-bus compatible/automatic detection of all standards
SAA7157	clock signal generation circuit (SCGC) for digital TV system; PLL or VCO operation modes
SAA7191	digital multistandard decoder - square pixel (DMSD-SQP); I^{2}C-bus; supports PAL, NTSC-M and SECAM
SAA7192	digital colour space converter; I^{2}C-bus; 16 MHz data rate
SAA7197	clock signal generation circuit (SCGC) for desktop video systems; PLL or VCO operation modes
SAA9051	digital multistandard TV decoder (S-DMSD) with separate chrominance and luminance inputs; I^{2}C-bus; supports PAL, NTSC, SECAM and B/W
SAA9056	S-VHS digital SECAM decoder (SDSD); I^{2}C-bus
SAA9057A	clock signal generation circuit (SGC) for a digital TV system; PLL or VCO operation modes
SAA9058	sample-rate converter; 2/3 reduction factor
TDA3504	video control combination circuit; supports PAL/SECAM −(R-Y) and −(B-Y) signals
TDA3505	video control combination circuit with automatic cut-off control; supports PAL/SECAM −(R-Y) and −(B-Y) signals
TDA3506	video control combination circuit with automatic cut-off control; supports PAL/SECAM +(B-Y) and +(R-Y) signals
TDA3507	video control combination circuit with automatic cut-off control; supports PAL/SECAM −(R-Y) and −(B-Y) signals
TDA3561A	PAL decoder
TDA3565	PAL decoder
TDA3566A	PAL/NTSC decoder
TDA3567	NTSC decoder
TDA3569B	NTSC decoder with fast RGB blanking
TDA3590A	SECAM processor circuit;
TDA3592A	SECAM-PAL transcoder
TDA4510	PAL decoder
TDA4532	SECAM decoder
TDA4555	multistandard decoder; supports −(R-Y) and −(B-Y) signals
TDA4556	multistandard decoder; supports +(R-Y) and +(B-Y) signals
TDA4557	multistandard colour decoder
TDA4560	colour transient improvement circuit; switchable delay time from 720 to 1035 ns in steps of 45 ns
TDA4563	colour transient improvement circuit (CTI) without Y-delay
TDA4565	colour transient improvement circuit; switchable delay time from 730 to 1000 ns in steps of 90 ns
TDA4566	colour transient improvement circuit; switchable delay time from 550 to 820 ns in steps of 90 ns
TDA4568	luminance signal delay circuit; switchable delay time from 550 to 820 ns in steps of 90 ns
TDA4570	NTSC decoder
TDA4580	video control combination circuit with automatic cut-off control
TDA4632	SECAM decoder
TDA4650	multistandard colour decoder with negative colour difference output signals difference outputs;
TDA4655	multistandard colour decoder
TDA4657	PAL/SECAM colour decoder
TDA4660	64 µs baseband delay line
TDA4661	baseband delay line
TDA4670	picture signal improvement circuit (PSI) in colour television receivers; I^{2}C-bus

TDA4680	video processor with automatic cut-off and white level control; I^2C-bus
TDA4685	video processor with automatic cut-off control; I^2C-bus
TDA4686	video processor with automatic cut-off control; I^2C-bus
TDA8390A	single-chip PAL decoder and RGB matrix
TDA8391	one-chip PAL decoder and RGB matrix; 12 MHz bandwidth
TDA8440	switch for CTV receivers; video/audio; I^2C-bus
TDA8443A	I^2C-bus controlled YUV/RGB switch; two-channels; RGB/YUV matrix; I^2C-bus or DC control; 3-state outputs; seven slave addresses
TDA8451A	P^2CCD delay line and matrix; for colour decoders; line locked VCO
TDA8452A	P^2CCD filter combination for colour decoders
TDA8453	P^2CCD filter combination for CVBS and S-VHS
TDA8453A	P^2CCD filter combination for CVBS and S-VHS
TDA8466	PAL/NTSC decoder; I^2C-bus
TDA8490	SECAM decoder
TDA8540	4x4 video switch matrix; I^2C-bus
TDA9045	video processor and input-selector
TDA9080	video control combination circuit with automatic cut-off control
TDA9141	alignment-free multi-standard colour decoder
TDA9160	PAL/NTSC/SECAM decoder/sync procesor; I^2C-bus

Video ADCs and DACs

SAA7165	as SAA9065 including digital CTI
SAA9060	video processor with DACs (VDA); 7-bit/8-bit D/A conversion of chrominance/luminance data
SAA9065	video enhancement and digital-analog processor; I^2C-bus; triple 8-bit video DAC with input formatter
SAA9079	7-bit analogue-to-digital converter (ADC 7); 22 MHz sampling rate; 3-state TTL outputs
TDA8702	8-bit video digital-to-analog converter; 30 MHz conversion rate; 150 MHz bandwidth; TTL-compatible
TDA8703	8-bit high-speed analog-to-digital converter; 40 MHz sampling rate; TTL-compatible
TDA8706	6-bit analog-to digital converter with multiplexer and clamp; three analog inputs; TTL compatible
TDA8708	video analog input interface; 8-bit video ADC; 30 MHz sampling rate; 1-out-of-3 video input selector; TTL compatible
TDA8709	video analog input interface; 8-bit video ADC; 30 MHz sampling rate; 1-out-of-3 video input selector; clamp function with '16' or '128' selection
TDA8712	8-bit high-performance, high-speed video DAC; 30 MHz (max.); TTL compatible; -55 to +125 °C
TDA8713	8-bit high-speed analog-to-digital converter; 50 MHz sampling rate; TTL compatible
TDA8715	8-bit high-speed analog-to-digital converter; 50 MHz sampling rate; ECL 10KH compatible
TDA8716	8-bit high-speed ADC; 100 MHz clock; ECL compatible
TDE8712	8-bit video digital-to-analog converter; 50 MHz conversion rate; TTL compatible; −55 to +125 °C
TDE8715	8-bit high-speed analog-to-digital converter; 50 MHz sampling rate; ECL 10KH compatible; −55 to +125 °C

Memory-based features

Scan conversion

SAA4940	noise reduction circuit
SAA4950	memory controller
SAA4980	16 × 9 converter
SAA7158	back-end IC for memory-based features and video DAC

Picture-in-picture

SAB9070	I^2C-bus controlled PIP controller (PIP8)

Video output

TDA6101Q	video output amplifier; 8 MHz small signal bandwidth
TDA6101AQ	video output amplifier; 8 MHz small signal bandwidth
TDA6111Q	video output amplifier; 16 MHz small signal bandwidth

APPLICATION-SPECIFIC

Video

SYNC, DEFLECTION AND SMPS ICs

Sync and deflection

TDA1082	east-west correction driver circuit; differential inputs
TDA2577A	synchronization circuit with vertical oscillator and driver stages; separates vertical and horizontal sync pulses from composite video signal
TDA2578A	synchronization circuit with vertical oscillator and driver stages; separates vertical and horizontal sync pulses from composite video signal; 50/60 Hz detector
TDA2579B	horizontal/vertical synchronization circuit; 50/60 Hz detector
TDA2579C	horizontal/vertical synchronization circuit; 60 Hz detector
TDA2593	horizontal combination
TDA2594	horizontal combination; transmitter identification
TDA2595	horizontal combination; transmitter identification and protection circuits
TDA2653A	vertical deflection circuit; supports 50/60 Hz operation
TDA2654	vertical deflection circuit; momochrome 110°; tiny-vision colour 90°
TDA2655B	vertical deflection circuit; CTV 90°
TDA2658	vertical deflection circuit; supports 50/60 Hz operation
TDA3653B	vertical deflection and guard circuit (90°); SIL9 package
TDA3653C	vertical deflection and guard circuit (90°); SIL9P package
TDA3654	vertical deflection and guard circuit (110°) SIL9P package
TDA3654Q	vertical deflection and guard circuit (110°) DBS9P package
TDA4800	vertical deflection circuit for monitors applications
TDA4820	sync separation circuit for video applications
TDA8350Q	DC-coupled vertical deflection and east-west output circuit
TDA8351	DC deflection vertical output
TDA8370	synchronization processor for television receivers; I^{2}C-bus
TDA8433	deflection processor for computer-controlled TV receivers; I^{2}C-bus
TDA9150	programmable deflection controller; I^{2}C-bus; self adaptive slope
TDA9151	programmable deflection controller; I^{2}C-bus; self adaptive or programmable fixed slope

Power supply

SMPS controllers

TDA8380	control circuit for switched mode power supplies
TEA1039	control circuit for switched mode power supply

PPS controllers

TDA2582	control circuit for power supplies; phase controlled
TDA2582Q	control circuit for power supplies; phase controlled
TDA8385	control IC for self-oscillating power supply (SOPS)

SMALL SIGNAL COMBI ICs

Black-white TV

TDA8303	small signal combination; sound IF; DC volume control; audio pre-amplifier; for NPN tuners
TDA8303A	small signal combination; sound IF; DC volume control; audio pre-amplifier; for PNP tuners

Colour TV

TDA4501	small signal combination with sound circuit for colour TV
TDA4502A	small signal combination with video switch for colour TV
TDA4504B	small signal combination for multistandard colour TV (positive and negative modulation)
TDA4505E	small signal combination IC for colour TV
TDA8302	small signal combination IC for colour TV; 60 Hz; video switch
TDA8304	small signal combination IC for colour TV; 50/60 Hz identification; video switch
TDA8305A	small signal combination IC for colour TV
TDA8360	one-chip PAL
TDA8361	one-chip PAL/NTSC
TDA8362	multistandard TV processor; one-chip small-signal CTV functions
TDA8395	SECAM decoder; alignment-free; integrated filters; for use with baseband delay

CONTROL ICs

Microcontrollers

See also **Microcontrollers** section

84C44x, 84C64x and 84C84x 8-bit microcontroller with OSD and VST

type number	ROM	RAM	oscillator for OSD		I^{2}C-	
			RC	LC	bus	common on-chip features
PCA84C440	4K8	128	✓		✓	8-bit timer/event counter
PCA84C441	4k8	128		✓	✓	three 8-bit I/O ports
PCA84C443	4k8	128	✓			one 5-bit I/O port
PCA84C444	4k8	128		✓		five 6-bit DACs
PCA84C640	6k8	128	✓		✓	14-bit DAC
PCA84C641	6k8	128		✓	✓	3-bit DAC + comparator for AFC
PCA84C643	6k8	128	✓			OSD 2 rows of 16 characters
PCA84C644	6k8	128		✓		64 characters for OSD
PCA84C840	8k8	192	✓		✓	
PCA84C841	8k8	192		✓	✓	
PCA84C843	8k8	192	✓			
PCA84C844	8k8	192		✓		

P83C053	microcontroller for television and video (MTV); 192x8 RAM; 8Kx8 ROM; 128x10 display RAM; 60x18x14 character generator ROM; 80C51 instruction set; OSD controller; 3 digital video outputs; 37 I/O lines; 14-bit PWM; 8 6-bit PWMs; triple multiplexed DAC
P87C054	microcontroller for television and video (MTV); 192x8 RAM; 16Kx8 OTPROM; 128x10 display RAM; 60x18x14 character generator ROM; 80C51 instruction set; OSD controller; 3 digital video outputs; 37 I/O lines; 14-bit PWM; 8 6-bit PWMs; triple multiplexed DAC

On-screen display (OSD)

PCA8510	stand-alone OSD circuit

TELETEXT ICs

SAA5190	teletext video processor; adaptive data slicer and sync separator, hor. phase detector, 6 MHz VCO
SAA5191	teletext video processor; adaptive data slicer and sync separator
SAA5231	teletext video processor; adaptive data slicer and sync separator
SAA5235	dataline slicer; gain switch for video input signal
SAA5236	dataline slicer; gain switch for video input signal
SAA5243E	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; West European language version
SAA5243H	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; East European language version
SAA5243L	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; Arabic and Hebrew version
SAA5243R	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; Baltic and Cyrillic version
SAA5243T	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; West European and Turkish version
SAA5243A	enhanced computer-controlled teletext circuit (ECCT); 625-line system; I^{2}C-bus; American version
SAA5244	integrated VIP and teletext (IVT1.1); single-chip teletext decoder with page-memory; 625-line; I^{2}C-bus; five language options
SAA5244A	integrated VIP and teletext (IVT1.1); shrunk-package version of SAA5244

SAA5246E	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; West European language version
SAA5246AE	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; West European language version
SAA5246H	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; East European language version
SAA5246AH	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; East European language version
SAA5246T	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; West European and Turkish language version
SAA5246AT	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; West European and Turkish language version
SAA5246AJ	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; Jugoslavian language version
SAA5246AI	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; Greek language version
SAA5246AL	integrated VIP and teletext (IVT); I^{2}C-bus; 625-line system; Arabic and Hebrew language version
SAA5247B	integrated VIP and teletext (IVT1.1BMC); I^{2}C-bus; supports up to 512 teletext pages in external RAM;
SAA5248E	single-chip teletext and VPS decoder (IVT1.0VPS); I^{2}C-bus
SAA5250	interface for data acquisition and control (for multistandard teletext systems)
SAA5252	line 21 decoder (LITOD)
SAA5260E	integrated VIP and teletext decoder (IVT2.0); I^{2}C-bus; 625-line system; West European language version
SAA5351	EUROM 50 Hz; CRT controller; CEPT videotex standard
SAA5355	single-chip colour crt controller (FTFROM); 525-line level-3 videotex decoder
SAA5361	EUROM 60 Hz; CRT controller; CEPT videotex model A4 standard
SAA9042	teletext IC for analog and digital TV; I^{2}C-bus; supports 525/625-line systems
SAA9042A	teletext IC for analog and digital TV; shrunk-package version of SAA9042

SATELLITE TV ICs

SAA7110	MAC video
SAA7120	MAC control
SAA7132	MAC sound
SAA7150	MAC data
SAA7160	MAC video processing
SAA7170	MAC digital procesing
SAA7280	terrestrial digital sound decoder (TDSD)
SAB8726	sensitive 2.6 GHz divide-by-2 prescaler
TDA8730	PLL FM demodulator for DBS signals
TDA8734	MACAN; analog signal input conditioner interface for use in multistandard MAC decoder
TDA8740	satellite sound circuit with noise reduction
TDA8741	satellite sound circuit with noise reduction
TDA8735	PLL frequency synthesizer for TDA8741 applications
TDA9821	dual channel TV FM intercarrier sound demodulator
TSA5055	2.5 GHz bi-directional I^{2}C-bus controlled synthesizer; for satellite tuning

MISCELLANEOUS ICs

NE592	video amplifier; 120 MHz bandwidth; adjustable gain; 0 to +70 °C
SA592	video amplifier; 120 MHz bandwidth; adjustable gain; −40 to +85 °C
NE5204A	wideband high-frequency amplifier; 350 MHz bandwidth; 0 to +70 °C
SA5204A	wideband high-frequency amplifier; 350 MHz bandwidth; −40 to +85 °C
NE5205A	wideband high-frequency amplifier; 550 MHz bandwidth; 0 to +70 °C
SA5205A	wideband high-frequency amplifier; 550 MHz bandwidth; −40 to +85 °C
NE5209	wideband variable gain amplifier; 850 MHz bandwidth; voltage-controlled gain; 0 to +70 °C
SA5209	wideband variable gain amplifier; 850 MHz bandwidth; voltage-controlled gain; −40 to +85 °C
NE5219	wideband variable gain amplifier; 700 MHz bandwidth; voltage-controlled gain; 0 to +70 °C
SA5219	wideband variable gain amplifier; 700 MHz bandwidth; voltage-controlled gain; −40 to +85 °C
NE5539	high frequency operational amplifier; 350 MHz bandwidth; 0 to +70 °C
SE5539	high frequency operational amplifier; 350 MHz bandwidth; −55 to + 125 °C
NE5592	video amplifier; dual amplifier; 110 MHz bandwidth; adjustable gain; 0 to +70 °C
μA733C	differential video amplifier; 120 MHz bandwidth; 0 to +70 °C

µA733	differential video amplifier; 120 MHz bandwidth; –55 to + 125 °C
TDA2501	PAL - NTSC encoder; encodes R-Y and B-Y signals onto one subcarrier
TDA2506	SECAM encoder; converts D'_R and D'_B signals into sequential signals
TDA2507	FM modulator controller;
TDA6800	video modulator circuit
TDA8442	I^{2}C-bus interface for colour decoders; four 6-bit DACs; one high-current and two switching output ports
TDA8444	octuple 6-bit DAC with I^{2}C-bus
TDA8501	PAL/NTSC encoder
TDA8505	SECAM encoder
TEA2000	PAL/NTSC colour encoder

VCR/RECORDER ICs

See also **Tuning and tuner ICs, Vision and sound IF ICs, Sound ICs** in this section

SAA1310	control interface for VHS recorders; PAL and NTSC compatible
SAA4700	VPS dataline processor; I^{2}C-bus; 40-bit dataline register; line 16 decoding
SAA5235	dataline slicer; gain switch for video input signal
SAA5236	dataline slicer; gain switch for video input signal
SAD1009	universal DAC (UDAC); serial input and output for 16-bit words; 7 PWM outputs; 9 programmable output ports
TDA2507	FM modulator controller
TDA2515A	dual FM modem for FM VHS hifi audio system; dual FM modulator/demodulator
TDA2518	dual hi-fi noise reduction with I^{2}C-bus
TDA3724	SECAM identification circuit; for PAL/SECAM (B,G) video recorders
TDA3725	SECAM (L) chrominance processor for video recorders
TDA3730	frequency demodulator and drop-out compensator for video recorders
TDA3740	video processor and frequency modulator for video recorders
TDA3755	PAL/NTSC/SECAM synchronization processor for video recorders; VHS systems
TDA3760	PAL chrominance signal processor for video recorders; VHS system
TDA3765	NTSC chrominance signal processor for video recorders; VHS system
TDA3791	band selector and window detector
TDA4710H	VHS PAL, SECAM BG or chrominance and synchronization circuit for an (S)VHS video cassette recorder
TDA4720	SECAM identification and chrominance correction circuit; VHS video recorders
TDA4725	SECAM-L chrominance processor for VHS video recorders
TDA5140	brushless DC motor drive circuit; 0.6 A output current
TDA5140A	brushless DC motor drive circuit; 0.6 A output current
TDA5142	brushless DC motor drive circuit; 0.15 A output current
TDA6800	video modulator circuit
TEA7650H	Video signal processor for CD-video/laser vision

CAMERA ICs

SAA1043	universal sync generator; programmable for eight standards
SAA1101	universal sync generator (USG); programmable to seven standards

MONITOR ICs

Sync

TDA2593	horizontal combination
TDA2594	horizontal combination; transmitter identification
TDA2595	horizontal combination; transmitter identification and protection circuits
TDA4810	sync processor and horizontal driver for monitors
TDA4850	horizontal and vertical deflection controller for VGA/XGA and multi-frequency monitors
TDA4851	horizontal and vertical deflection controller for VGA/XGA and multi-frequency monitors; low jitter
TDA8433	deflection processor for computer-controlled TV receivers; I^{2}C-bus

APPLICATION-SPECIFIC

Video

Deflection

TDA2653A	vertical deflection circuit; supports 50/60 Hz operation
TDA2654	vertical deflection circuit; momochrome 110°; tiny-vision colour 90°
TDA2658	vertical deflection circuit; supports 50/60 Hz operation
TDA4800	vertical deflection circuit for monitor applications
TDA4860	vertical deflection power amplifier for monitors; 2 A_{p-p}
TDA4861	vertical deflection power amplifier for monitors; 2.8 A_{p-p}
TDA8351	DC deflection vertical output

SMPS

TDA8380	control circuit for switched mode power supplies
TEA1039	control circuit for switched mode power supply

Video control

TDA4880	advanced monitor video controller; DC controllable
TDA3507	video control combination circuit with automatic cut-off control; supports PAL/SECAM −(R-Y) and −(B-Y) signals

Miscellaneous ICs

TDA8442	I^2C-bus interface for colour decoders; four 6-bit DACs; one high-current and two switching output ports
TDA8444	octuple 6-bit DAC with I^2C-bus

MISCELLANEOUS ICs

See **Support circuits for Telecom, Radio/Audio and Video** section for:

- Clock/calendar ICs
- I^2C-bus I/O expanders
- Memories
- Remote controllers

See **Display drivers** section

APPLICATION-SPECIFIC

Support circuits for Telecom, Radio/Audio and Video

CLOCK/CALENDAR

PCF8573	clock calendar with serial I/O; I^{2}C-bus; timebase from 32 kHz crystal
PCF8583	clock calendar with 256 x 8-bit static RAM; I^{2}C-bus; 32 kHz or 50 Hz timebase

I^{2}C-bus I/O EXPANDERS

PCF8574	remote 8-bit I/O expander for I^{2}C-bus; 8 slave addresses
PCF8574A	remote 8-bit I/O expander for I^{2}C-bus; 8 different slave addresss
PCD8584	I^{2}C-bus controller; master/slave interface; parallel-bus/I^{2}C-bus converter

DISPLAY DRIVERS

see Display drivers section

MEMORIES

Static RAMs

PCF8570	256x8-bit static RAM with I^{2}C bus interface
PCF8570C	256x8-bit static RAM with I^{2}C bus interface; alternative slave address
PCF8571	128x8-bit static RAM with I^{2}C bus interface
PCD5101	256x4-bit static RAM; 2.5 V supply; 1 V data retention
PCD5114	1024x4-bit static RAM; 2.5 V supply; 1 V data retention

EEPROMs

PCF8581	128x8-bit EEPROM with I^{2}C-bus interface; supply voltage 4.5 to 5.5 V
PCF8581C	128x8-bit EEPROM with I^{2}C-bus interface; supply voltage 2.5 to 6 V
PCF8582A	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature
PCA8582B	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; single bit error correction for extended number of erase/write cycles
PCF8582C	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8582D	256x8-bit static CMOS EEPROM with I^{2}C-bus interface;single bit error correction for extended number of erase/write cycles
PCF8582E	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8582C-2	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8582D-2	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8582E-2	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8582F-2	256x8-bit static CMOS EEPROM with I^{2}C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8594C-2	512x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8594D-2	512x8-bit static CMOS EEPROM with I^{2}C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8594E-2	512x8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8594F-2	512x8-bit static CMOS EEPROM with I^{2}C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCF8598C-2	1kx8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles
PCD8598D-2	1kx8-bit static CMOS EEPROM with I^{2}C-bus interface; single bit error correction for extended number of erase/write cycles
PCF8598E-2	1kx8-bit static CMOS EEPROM with I^{2}C-bus interface; extended temperature; low supply voltage; single bit error correction for extended number of erase/write cycles

PCF8598F-2	1kx8-bit static CMOS EEPROM with I^2C-bus interface; automotive temperature; low supply voltage; single bit error correction for extended number of erase/write cycles

REMOTE CONTROLLERS

PCA84C122	8-bit microcontroller; for remote control transmitter; 1K ROM; 32 bytes RAM; 12 or 16 I/O lines; 8-bit timer; watchdog timer
PCF1254	infrared remote control transmitter (low voltage); 22 bit EEPROM-generated individual code
SAA3004	remote control transmitter; 450 kHz; for infrared remote control; up to 448 commands
SAA3006	high performance transmitter (RC-5) for infrared remote control; up to 2048 commands
SAA3007	high performance transmitter (455 kHz) for infrared remote control; up to 1280 commands; low voltage
SAA3008	infrared remote control transmitter (RECS 80 low voltage); 38 kHz; up to 1280 commands
SAA3010	infrared remote control transmitter RC-5; low voltage; up to 2048 commands
SAA3027	infrared remote control transmitter RC-5; low current; up to 2048 commands
SAA3049	infrared remote control decoder
SAF1039	transmitter for infrared remote control
TDA3047	infrared receiver; for infrared remote control; active HIGH output signal
TDA3048	infrared receiver; for infrared remote control; active LOW output signal
TSA9036	receiver IC for infrared remote control (including photo diode); active LOW output signal
TSA9037	receiver IC for infrared remote control (including photo diode); active HIGH output signal
TSA9455	receiver IC for infrared remote control (including photo diode); active HIGH output signal
TSA9456	receiver IC for infrared remote control (including photo diode); active LOW output signal

APPLICATION-SPECIFIC

Discrete Semiconductors

SC

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Letter Symbols

ampl-class	**amplification class** Code identifying the class of amplification of a transistor, amplifier, integrated circuit or an electron tube.
application	**EHT stack application** Number of phases of the application mode of an EHT rectifier diode stack.
channel-type	**channel type** Code indicating the material type of the channel(s) of a field-effect transistor.
class	**amplification class** Code identifying the class of amplification of a transistor, amplifier, integrated circuit or an electron tube.
C_d	**diode capacitance** The capacitance (in F) of a variable capacitance diode, as a variable. NOTE - The specified diode capacitance has to be adjusted with the reverse voltage.
$C_{d1/C\ d2}$	**capacitance ratio** The value as specified by level (minTypMax) of the capacitance ratio of a tuning variable capacitance diode, within a reverse voltage range, specified by the reverse voltages (V_1 and V_2), and at specified frequency.
C_{iss}	**input capacitance** The value as specified by level (minTypMax) of the guaranteed capacitance (in F) between gate and source connections, with drain-source connections short-circuited for ac voltage, of a field-effect transistor at specified frequency, drain-source voltage, and gate-source voltage.
C_{oss}	**output capacitance** The value as specified by level (minTypMax) of the guaranteed capacitance (in F) between drain and source connections, with gate-source connections short-circuited for ac voltage, of a field-effect transistor at specified frequency, drain-source voltage, and gate-source voltage.
C_{rs}	**feedback capacitance** The value as specified by level (minTypMax) of the capacitance (in F) between the drain and the gate with the input short-circuited to ac, of a field-effect transistor at specified frequency, drain-source voltage and gate-source voltage.
CTB	**composite triple beat** The value as specified by level (minTypMax) of the quotient (in dB) of a wideband amplifier of: 1) the sum of frequency components measured at a specified TV channel arising from superposition of any three frequency components when a specified number of adjacent channels have an input signal resulting in an equal output voltage, to 2) the wanted output signal level at specified supply voltage, temperature of a temperature type.
CTR	**current transfer ratio** The value as specified by level (minTypMax) of the dc transfer ratio of the collector current and the diode forward current in a photocoupler at specified diode forward current, collector-emitter voltage and junction temperature.
d_{im}	**intermod distortion d_{im}** The value as specified by level (minTypMax) of the intermodulation distortion (in dB) of an rf bipolar power transistor measured according to the three-tone test method at specified sync output power, vision frequency, collector-emitter voltage, collector current and temperature of a temperature type
d_2	**2nd-order beat** The value as specified by level (minTypMax) of the quotient (in dB) of a wideband amplifier of: 1) the amplitude of the frequency component arising by the superposition of two input signals with specified amplitude and frequency (or channel) measured at a specified frequency (or channel), and 2) the amplitude of one of two original frequencies at specified supply voltage, temperature and temperature type.
d_3	**intermod. distortion d_3** The value as specified by level (minTypMax) of the third-order intermodulation distortion (in dB) of a field-effect r.f. power transistor measured according to the two-tone test method at specified peak envelope, power frequency, drain-source voltage, drain current and temperature of a temperature type.
delta	**duty cycle** The ratio (in %) of one ON-period to the total period of one cycle of an input quantity (current or voltage) applied to a transistor, diode or optoelectronic device as a variable.
dt	**duration** The time (in s) during which an input quantity (current, voltage, etc.) is applied to a component, as a variable.
$dI_{T/dt\text{-}max}$	**rate of rise on-state curr** The maximum limiting rate of rise of on-state current (in A/s) after triggering with a specified gate current to a specified on-state current at a stated rate of rise of the gate current.
$dV_{D/dt\text{-}max}$	**rate of rise of off-state volt** The maximum rate of rise (in V/s) of the off-state voltage that will not trigger the device at a specified off-state voltage and junction temperature.
efficiency	**efficiency** The value as specified by level (minTypMax) of the ratio (in %) of the caloric power in the load of a bipolar power transistor to the total power supplied to the transistor at specified application, frequency, load power, collector current, collector-emitter voltage, and temperature of a temperature type.
eta	**efficiency** The value as specified by level (minTypMax) of the ratio (in %) of the caloric power in the load of a bipolar power transistor to the total power supplied to the transistor at specified application, frequency, load power, collector current, collector-emitter voltage, and temperature of a temperature type.
E_{RSM}	**non-rep peak rev aval energy** The maximum non-repetitive peak reverse avalanche mode pulse energy (in J) of a rectifier diode, at specified reverse current and maximum junction temperature prior to the application of the pulse and with inductive load switched off.
f	**frequency** The frequency (in Hz) of a sinusoidal input quantity (current, power, voltage, etc.) applied to an electric/electronic or electromechanical component, as a variable.
f_{lower}	**frequency lower** The nominal lower frequency (in Hz) of a frequency application range in which an electric/electronic or electromechanical component is intended to be used.
f_{upper}	**frequency upper** The nominal upper frequency (in Hz) of a frequency application range in which an electric/electronic or electromechanical component is intended to be used.

Letter Symbols (cont.)

f_T	**transition frequency** The value as specified by level (minTypMax) of the frequency (in Hz) at which the small-signal current gain has decreased to unity when the output is short-circuited at specified collector current and collector-emitter voltage.
f_1	**frequency f_1** The lower frequency f_1 (in Hz) of the frequency range applied to an electric/electronic or electromechanical component, as a variable.
f_2	**frequency f_2** The upper frequency f_2 (in Hz) of the frequency range applied to an electric/electronic or electromechanical component, as a variable.
F	**spot noise figure** The value as specified by level (minTypMax) of the spot noise figure (in dB) of a bipolar transistor at specified collector current, collector-emitter voltage, source impedance and frequency.
FET-appl	**FET-application range** Code of the application range of a power field-effect transistor.
FL	**conformity of freq response** The value as specified by level (minTypMax) of the gain difference (in dB) of a wideband amplifier of the measured power gain and the theoretical calculated power gain with an optimized cable equivalent impedance at specified supply voltage, temperature of a temperature type and a frequency range between specified frequencies (f_1 and f_2).
g_{fs}	**transfer conductance** The value as specified by level (minTypMax) of the nominal value of the real part of the transfer admittance (in S) of a forward biased field-effect transistor at specified drain current and drain-source voltage.
gate-type	**gate type** Code indicating the type of gate of a field-effect transistor.
G_p	**power gain** The value as specified by level (minTypMax) of the ratio (in dB) of the output power to the input power of a bipolar transistor or wideband amplifier at specified supply voltage, frequency, output power and temperature of a temperature type.
G_{po}	**low-level power gain with P_{L1}** The value as specified by level (minTyp) of the linear or small-signal gain (in dB) of a bipolar r.f. power transistor, at specified values of the collector-emitter voltage, collector current, frequency and temperature of a temperature type.
G_{UM}	**unilateral power gain** The value as specified by level (minTypMax) of the power gain (in dB) of a bipolar transistor, considered as a four-terminal network, conjugately matched at its output terminals, assuming the s_{re} (reverse transmission coefficient at common emitter configuration) is zero at specified collector-emitter voltage, collector current, frequency and temperature of a temperature type.
h_{FE}	**dc current gain** The value as specified by level (minTypMax) of the static ratio of the collector current to the base current of a bipolar transistor in common emitter configuration at specified collector current, collector-emitter voltage and junction temperature.
(I^2)*t	**Joule-integral** The maximum capability of a thyristor, triac or diode to absorb energy (in J) at specified time duration. NOTE - When considered from the point of view of the circuit protected by a fuse, the value of the Joule-integral over the operating time of the fuse is referred to a specific energy, i.e. the energy released as heat in 1 ohm of circuit resistance.
I_{tot}	**current consumption** The value as specified by level (minTypMax) of the direct supply current (in A) applied to an amplifier at specified supply voltage and temperature of a temperature type.
I_B	**base current (dc)** The direct base current (in A) of a bipolar transistor, as a variable.
I_C	**collector current (dc)** The direct collector current (in A) of a bipolar transistor or transistor part of an electronic device, as avariable.
$I_{C\text{-max}}$	**collector current (dc) max** The maximum direct collector current (in A) of a bipolar transistor or optoelectronic device.
I_{CM}	**collector current peak value** The maximum peak value of the collector current (in A) of a bipolar transistor during a specified duration.
I_D	**drain current (dc)** The direct current (in A) flowing through the drain of a field-effect transistor, as a variable.
$I_{D\text{-max}}$	**drain current (dc)** The maximum direct drain current (in A) of a field effect transistor.
I_{DSS}	**drain current (dc)** The value as specified by level (minMax) of the direct drain current (in A) of a field-effect transistor at specified drain-source voltage and source short-circuited to the gate.
I_F	**forward current** The direct current (in A) flowing through a diode or diode part of an electronic device, in the forward direction, as a variable.
$I_{F(AV)}$	**average forward current** The maximum average forward current (in A) of a rectifier diode or signal diode at specified temperature of a temperature type.
$I_{F(AV)/air}$	**average forward current** The maximum average forward current (in A) of a rectifier diode or signal diode at specified temperature of a temperature type.
$I_{F(AV)/oil}$	**average forward current** The maximum average forward current (in A) of a rectifier diode or signal diode at specified temperature of a temperature type.
$I_{F\text{-max}}$	**forward current lim** The maximum limiting direct current (in A) flowing through a diode, or diode part of an optoelectronic device, in the forward direction.
I_{FRM}	**rep peak forward current** The maximum repetitive peak forward current (in A) flowing through a diode or diac at specified forward voltage. NOTE - Including all repetitive transient currents.
I_{FSM}	**non-rep peak forward current** The maximum non-repetitive peak forward current (in A) of a diode at specified junction temperature and specified duration prior to the application of the pulse.

Letter Symbols (cont.)

I_{GSS}	**gate cut-off current** The value as specified by level (minTypMax) of the reverse gate current (in A) of a field-effect transistor with the drain short-circuited to the source and at specified gate-source voltage and temperature of a temperature type.
$I_{GT\text{-}min}$	**gate trigger current** The minimum gate current (in A) required to switch a thyristor or triac from the off-state to the on-state at specified off-state voltage and junction temperature.
I_H	**holding current** The minimum operating d.c. on-state current (in A) required to hold a breakover diode in the on-state at a specified temperature of a temperature type.
I_R max	**reverse current** The maximum continuous reverse direct current (in A) of a diode, optoelectronic device, thyristor or triac at specified reverse voltage and temperature of a temperature type.
I_{RSM}	**non-rep peak reverse current** The non-repetitive peak reverse current (in A) of a stabilizer diode, as a variable.
$I_{T(AV)\text{-}max}$	**average on-state current** The maximum limiting average dc current (in A) flowing from anode to cathode in the on-state of a thyristor during one mains cycle at a specified mounting base temperature.
$I_{T(RMS)\text{-}max}$	**rms on-state current** The maximum limiting rms on-state current (in A) flowing from the anode to the cathode in a thyristor or triac.
I_{TRM}	**rep peak on-state current** The maximum limiting peak on-state current (in A), including all repetitive transient currents, in a triac or thyristor.
I_{TSM}	**non-rep peak on-state current** The maximum limiting non-repetitive peak on-state current (in A) in a thyristor or triac, at specified duration and mounting-base temperature.
I_{TSM1}	**transient peak current 8/20** The limiting maximum transient peak on-state current (in A) of a breakover diode, at a virtual front time of 8 us and a virtual time to half-value of 20 us.
I_{TSM2}	**transient peak current 10/320** The limiting maximum transient peak on-state current (in A) of a breakover diode, at a virtual front time of 10 us and a virtual time to half-value of 320 us.
I_Z	**working current** The direct working current (in A) applied continuously to a voltage reference diode or voltage regulator diode, as a variable.
I_Z max	**working current** The maximum direct reverse current (in A) which may be applied continuously to a voltage reference diode, voltage regulator diode or transient suppressor diode.
ITO typ	**third order intercept point** The theoretical typical value (in dBm) where the third-order intermodulation product power would be equal to the output power of the original tones, at specified values of collector-emitter voltage, collector current, frequency and temperature of a temperature type.
mult-dio-confi	**diode configuration** Code of the mode of configuration of a breakover diode, rectifier diode, signal diode or variable capacitance diode.
near-conv-type	**nearest conventional type** Type number of the nearest conventional type, with comparable electrical specification, as the surface-mounted diode or transistor under consideration.
noise figure	**spot noise figure** The value as specified by level (minTypMax) of the spot noise figure (in dB) of a field-effect transistor at specified drain current, drain-source voltage, gate-source voltage, source impedance and frequency.
polarity	**transistor polarity** The abbreviated name of the type of semiconductor material forming the junctions of a bipolar transistor.
P_{max}	**power dissipation** The maximum power (in W) of an electric/electronic or electromechanical component which may be dissipated continuously at specified temperature of a temperature type.
P_{tot}	**power dissipation** The maximum power (in W) which may be dissipated continuously in a breakover diode, in unidirectional operation, mounted on an infinite heatsink and with a temperature of a temperature type.
P_{RSM}	**non-rep peak reverse power dis** The maximum non-repetitive peak reverse power dissipation (in W) of a voltage regulator diode, at specified time duration and junction temperature prior to the application of the pulse.
P_{TM}	**peak power dissipation** The maximum peak power (in W) which may be dissipated in a breakover diode, during 1 ms and when mounted in free air with ambient temperature.
P_{ZSM}	**non-rep peak reverse power dis** The maximum amplitude (in W) of a single non-repetitive square power pulse dissipated in a rectifier diode, signal diode or stabistor, operating in the breakdown region, at specified pulse duration and junction temperature prior to the application of the pulse.
P.E.P.	**peak envelope power PEP** The value as specified by level (minTypMax) of the peak envelope power (in W) of a bipolar transistor in SSB mode of operation, measured according to the two-signal method, at specified collector-emitter voltage, collector current, frequency and temperature of a temperature type.
P_{load}	**sync output power** The value as specified by level (minTypMax) of the sync output power (in W) of a bipolar rf power transistor measured according to the three-tone test method at specified intermodulation distortion, frequency, collector-emitter voltage, collector current and temperature of a temperature type.
P_{max}	**power dissipation** The maximum power (in W) of an electric/electronic or electromechanical component which may be dissipated continuously at specified temperature of a temperature type.
P_L	**output power** The value as specified by level (minTyp) of the operting r.f. output power (in W), delivered into a 50 ohms load in a specific test circuit, of a bipolar microwave transistor at specified supply voltage, collector-current, frequency and temperature of a temperature type.
P_L min	**output power** The nominal rf output power (in W) of a bipolar transistor at specified collector-emitter voltage, frequency and heatsink temperature.

Letter Symbols (cont.)

P_L	**load power** The value as specified by level (minTyp) of the operating output power (in W), delivered into a 50 ohms load in a specific test circuit, of a bipolar pulsed r.f. power transistor at specified supply voltage, pulse time, duty cycle, frequency and temperature of a temperature type.
P_{Load}	**load power** The value as specified by level (minTyp) of the operating output power (in W) of a field-effect r.f. transistor at specified drain-source voltage, drain current, frequency and temperature of a temperature type.
P_{L1}	**load power at 1 dB compr. gain** The value as specified by level (minTyp) of the output power (in W), delivered into a 50 ohms load, of a bipolar r.f. power transistor at 1 dB power compression and at specified values of collector-emitter voltage, collector current, frequency and temperature of a temperature type.
r_{diff} max	**differential resistance** The maximum differential resistance (in ohm), being the quotient of the delta V_F and delta I_F, of a voltage reference diode at specified working current.
r_s	**diode reverse resistance** The value as specified by the level (minTypMax) of the series resistance (in ohm) of a tuning variable capacitance diode at specified frequency and adjusted diode capacitance. NOTE - The specified diode capacitance has to be adjusted with the reverse voltage.
r_D	**diode forward resistance** The value as specified by level (minTypMax) of the series resistance (in ohm) of a signal diode or variable capacitance diode at specified frequency and forward current.
$R_{DS(on)}$	**drain-source on-state res** The value as specified by level (minTypMax) of the dc resistance (in ohm) between the drain and source terminals of a field-effect transistor with a specified gate-source voltage applied to bias the device to the on-state, a specified drain current and temperature of a temperature type.
R_L	**load resistance** Load resistance (in ohm) at the output of an electric/electronic or electromechanical component, as a variable.
RF-band	**frequency band** The abbeviated name of the frequency band in which a transistor, electron tube, IC, amplifier or hybrid can operate.
shape	**pulse shape** Code of the shape of a pulse applied to an electric/electronic or electromechanical component as a variable.
S_F	**temperature coefficient S_F** The maximum temperature coefficient (in mV/K) of a stabistor at specified forward current and forward voltage.
S_Z	**temperature coefficient S_Z** The maximum temperature coefficient (in %/K) of a voltage reference diode or voltage stabilizer diode, at specified working current.
SL	**slope cable equivalent** The value as specified by level (minTypMax) of the difference in power gain (in dB) of a wideband amplifier measured at specified frequencies (f_1 and f_2) of a frequency range, with an optimized cable equivalent impedance, at specified supply voltage and temperature of a temperature range.
t_{off}	**turn-off time** The value as specified by level (minTypMax) of the time (in s), measured between the 90% value of the gate-source voltage change and the 10% value of the drain current swing of a field-effect transistor at reference conditions.
t_{on}	**turn-on time** The value as specified by level (minTypMax) of the time (in s), measured between the 10% value of the gate-source voltage change and the 90% value of the drain current swing of a field-effect transistor at reference conditions.
t_p	**duration** The time (in s) during which an input quantity (current, voltage, etc.) is applied to a component, as a variable.
t_{q-max}	**commutated turn-off time** The maximum time interval (in s) between the instant when the on-state current has decreased to zero after external switching of the anode-cathode voltage and the instant when the specified on-state voltage which the thyristor is capable of supporting without turning on, passes through zero with a specified rate of rise of on-state voltage.
t_{rr}	**reverse recovery time** The maximum reverse recovery time (in s) of a diode, when switched from a specified forward current to a specified reverse voltage at a specified change of forward current and junction temperature.
t_{rr-max}	**reverse recovery time** The maximum reverse recovery time (in s) of a diode, when switched from a specified forward current to a specified reverse voltage at a specified change of forward current and junction temperature.
t_1	**virtual front time** The virtual front time t_1 (in s) of an impulse applied to a stabilizer diode, as a variable. NOTE - If oscillations are present on the front, the 10% and 90% values should be derived from a mean curve drawn through these oscillations in an analogous manner to that used for oscillatory lightning impulses.
t_2	**virtual time to half-value** The virtual time to half-value t_2 (in s) of an impulse current applied to a stabilizer diode, as a variable.
transm-class	**modulation method** IEC standard abbreviation of the type of modulation for the application of an electric/electronic component.
T_h	**heatsink temperature** The temperature (in Cel) of the heatsink of a transistor, diode, trigger device, optoelectronic device or IC, as a variable.
T_j	**junction temperature** The junction temperature (in Cel) of a transistor, diode, trigger device, optoelectronic device or IC as a variable.
T_{mb}	**mounting base temperature** The temperature (in Cel) of the mounting base of a transistor, diode, trigger device, optoelectronic device or IC, as a variable.
T_{tp}	**tie point temperature** The temperature (in Cel) of the tie point of a voltage regulator diode, as a variable.
Tx mode	**modulation method** IEC standard abbreviation of the type of modulation for the application of an electric/electronic component.

Letter Symbols (cont.)

$V_{(BO)}$	**breakover voltage** The value as specified by level (miNoMax) of the voltage (in V) appearing across a breakover diode prior to switching to the on-state, at a specified breakdown current not higher than the switching current and at specified temperature of a temperature type.
$V_{(BR)}$	**breakdown voltage** The minimum operating breakdown voltage (in V) at which a breakover diode will commence avalanche breakdown, at specified breakdown current and temperature of a temperature type.
$V_{(CL)R}$	**clamping voltage** The maximum clamping voltage (in V) of a transient suppressor diode at specified non-repetitive peak reverse current, virtual front time and virtual time to half-value.
V_o	**output voltage** The value as specified by level (minTypMax) of the output voltage (in dBmV) of a wideband amplifier at specified supply voltage, intermodulation distortion and temperature of a temperature type.
$V_{o(rms)}$	**output voltage** The value as specified by level (minTyp) of the operating output voltage (in dBuV) of a hybrid MATV wideband amplifier at specified values of supply voltage, frequency range between f_1 and f_2, intermodulation distortion of -60 dB and temperature of a temperature type.
V_{ref}	**working voltage** The value as specified by level (miNoMax) of the working voltage (in V) of a voltage regulator diode or voltage reference diode at specified working current.
V_{supply}	**supply voltage** The value as specified by level (minNoMax) of the supply voltage (in V) applied, directly or via an external circuit, to an IC, transistor or semiconductor sensor.
V_{CC}	**supply voltage** The d.c. supply voltage (in V) applied to a photocoupler via an external circuit, as a variable.
V_{CE}	**collector-emitter voltage** The direct voltage (in V) between the collector and emitter terminals of a bipolar transistor, as a variable.
$V_{CEsat\text{-}max}$	**collector-emitter sat volt max** The maximum guaranteed collector-emitter saturation voltage (in V) of a photocoupler at specified forward current, collector current and junction temperature.
V_D	**off-state voltage max.** The limiting maximum continuous voltage (in V) across a breakover diode in the off-state condition.
$V_{D\text{-}max}$	**off-state voltage** The maximum limiting continuous voltage (in V) between the thyristor or triac anode and cathode in the off-state, excluding repetitive and non-repetitive voltages.
V_{DRM}	**rep peak off-state voltage** The maximum limiting repetitive peak off-state voltage (in V) across a thyristor or triac including all repetitive voltages but excluding all non-repetitive transient voltages.
V_F	**forward voltage** The value as specified by level (minTypMax) of the forward voltage (in V) across a diode or diode part of an optoelectronic device, at specified forward current and temperature of a temperature type.
$V_{GT\text{-}min}$	**gate trigger voltage** The minimum gate voltage (in V) required to switch a triac or thyristor from the off-state to the on-state at a specified off-state voltage and junction temperature.
V_{IORM}	**isolation voltage min** The minimum guaranteed dc test voltage (in V) across the shorted diode leads and the shorted transistor leads that a photocoupler must withstand for a specified duration.
V_R	**reverse voltage** The direct voltage (in V) applied to a diode or optoelectronic device in reverse direction, as a variable.
$V_{R\text{-}max}$	**reverse voltage** The maximum voltage (in V) which may be applied continuously to a diode or diode part of an optoelectronic device in the reverse direction at specified temperature of a temperature type.
V_{RRM}	**rep peak reverse voltage** The maximum repetitive peak reverse voltage (in V) across a diode or reverse blocking thyristor.
V_{RWM} max	**crest working reverse voltage** The maximum peak reverse voltage (in V), across a rectifier diode. NOTE - Excluding all repetitive and non-repetitive transient voltages.
V_1	**voltage V_1** The lower voltage V_1 (in V) of the voltage range applied to an electric/electronic or electromechanical component, as a variable.
V_2	**voltage V_2** The upper voltage V_2 (in V) of a voltage range applied to an electric/electronic or electromechanical component, as a variable.
V-CEsat	**collector-emitter sat voltage** The value as specified by level (minTypMax) of the collector-emitter saturation voltage (in V) of a bipolar transistor at specified collector current, base current and junction temperature. NOTE - This is the voltage between collector and emitter terminals when both the base-emitter and base-collector junctions are forward biased.
V_o	**output voltage** The value as specified by level (minTypMax) of the operating output voltage (in V) of a wideband bipolar transistor at specified values of collector-emitter voltage, collector current, intermodulation distortion, load resistance, frequency and temperature of a temperature type.
V_{supply}	**supply voltage** The value as specified by level (minNoMax) of the supply voltage (in V) applied, directly or via an external circuit, to an IC, transistor or semiconductor sensor.
V_{CBO}	**collector-base voltage V_{CBO}** The maximum voltage (in V) between collector and base terminals of a bipolar transistor at open emitter terminal.
V_{CE}	**collector-emitter volt V_{CEO}** The maximum voltage (in V) between collector and emitter terminals of a bipolar transistor at open base terminal.

Letter Symbols (cont.)

V_{CEsat}	**collector-emitter sat voltage** The value as specified by level (minTypMax) of the collector-emitter saturation voltage (in V) of a bipolar transistor at specified collector current, base current and junction temperature. NOTE - This is the voltage between collector and emitter terminals when both the base-emitter and base-collector junctions are forward biased.
V_{CEO}	**collector-emitter volt V_{CEO}** The maximum voltage (in V) between collector and emitter terminals of a bipolar transistor at open base terminal.
V_{CER}	**collector-emitter volt V_{CER}** The maximum direct voltage (in V) between collector and emitter terminals of a bipolar transistor at specified resistance between base and emitter terminals.
V_{CESM}	**collector-emitter peak voltage** The maximum peak collector-emitter voltage (in V) of a bipolar transistor when the base terminal is short-circuited to the emitter terminal.
V_{DS}	**drain-source voltage** The direct voltage (in V) between drain and source terminals of a field-effect transistor, as a variable.
$V_{DS\text{-}max}$	**drain-source voltage lim** The maximum limiting direct voltage (in V) between drain and source terminals of a field-effect transistor.
V_{GS}	**gate-source voltage** The direct voltage (in V) between gate and source terminals of a field-effect transistor, as a variable.
$V_{GS(off)}$	**gate-source cut-off voltage** The value as specified by level (minTypMax) of the gate-source cut-off voltage (in V) of a depletion field-effect transistor at specified drain current, drain-source voltage and temperature of a temperature type.
$V_{GS(th)}$	**gate-source threshold volt** The value as specified by level (minTypMax) of the direct threshold voltage (in V) between gate and source terminals of an enhancement field-effect transistor at specified drain current and drain-source voltage.
VSWR-in-max	**input standing wave ratio** The maximum voltage standing wave ratio at the input of an amplifier at specified values of supply voltage, temperature of a temperature type and frequency range between specified frequencies (f_1 and f_2).
VSWR-out-max	**output standing wave ratio** The maximum voltage standing wave ratio at the output of an amplifier at specified values of supply voltage, temperature of a temperature type and frequency range between specified frequencies (f_1 and f_2).
X_{mod}	**cross modulation** The value as specified by level (minTypMax) of the cross modulation (in dB) measured at the output of a wideband amplifier when a specified number of carrier frequencies, with each an equal output voltage, is applied to the input of the module at specified supply voltage, temperature of a temperature type. NOTES 1 All carrier frequencies are switched on/off with a duty cycle of 50% and a repetition frequency of: 15.750 kHz for 60 Hz mains frequencies and 15.625 kHz for 50 Hz mains frequencies. 2 100% is specified as 0 dB
y-fs	**transfer admittance** The value as specified by level (minTypMax) of the modulus of the transfer admittance (in S) of a field effect transistor at specified frequency, drain current, gate-source voltage and drain-source voltage.
Y_{fs}	**transfer admittance** The value as specified by level (minTypMax) of the modulus of the transfer admittance (in S) of a field effect transistor at specified frequency, drain current, gate-source voltage and drain-source voltage.
Z_L	**load impedance** The typical value of the impedance (in ohm) of a load connected to the output of a transistor or amplifier.
Z_S	**source impedance** The typical value of the impedance (in ohm) of a source connected to the input of a transistor or amplifier.

Details

Outline/Packaging

SPQ = Smallest Packing Quantity
PQ = Packing Quantity

case	material	mounting techn.	packing shape	SPQ	PQ
DO-4	METAL	STUD	BULK PACK	25	250
DO-5	METAL	STUD	BULK PACK	10	100
DO-41	GLASS	LEADED	REEL PACK,AXIAL,STAN	5000	5000
FO41B	CERAMIC	LEADED	BULK PACK	1	40
FO45	CERAMIC	LEADED	BULK PACK	1	40
			BULK PACK	20	60
FO46	CERAMIC	LEADED	BULK PACK	20	60
FO57			BULK PACK	1	40
FO57C	CERAMIC	LEADED	BULK PACK	1	40
FO57D	CERAMIC	LEADED	BULK PACK	1	40
FO67	CERAMIC	LEADED	BULK PACK	1	40
FO83	CERAMIC	LEADED	BULK PACK	1	40
FO85			BULK PACK	10	150
FO91	CERAMIC	LEADED	BULK PACK	1	40
FO91B	CERAMIC	LEADED	BULK PACK	1	40
FO93	CERAMIC	LEADED	BULK PACK	1	40
			BULK PACK	2	40
FO96	CERAMIC	LEADED	BULK PACK	1	40
FO102			BULK PACK	10	150
FO125			BULK PACK	1	40
FO150			BULK PACK	1	10
FO151			BULK PACK	50	50
			BULK PACK	25	100
			TRADE PACK	1	1
FO163	CERAMIC	LEADED	BULK PACK	1	40
FO229	CERAMIC	LEADED	BULK PACK	1	40
SOD1			BULK PACK	150	150
SOD4			BULK PACK	10	100
			BULK PACK	25	100
			BULK PACK	25	250
			BULK PACK,CECC	25	250
SOD53			BULK PACK	1000	6000
			REEL PACK,RADIAL	2000	10000
			AMMOPACK,RADIAL	4500	22500
			REEL PACK,RADIAL,REV	2000	10000
SOD57	GLASS	LEADED	BULK PACK	250	250
			BULK PACK	1000	1000
			BULK PACK	1500	1500
			REEL PACK,AXIAL,STAN	2000	2000
			REEL PACK,AXIAL,STAN	4000	4000
			REEL PACK,AXIAL,STAN	5000	5000
			AMMOPACK,AXIAL,52MM	3000	3000
			AMMOPACK,AXIAL,SMALL	50	50
			AMMOPACK,AXIAL,SMALL	200	200
SOD61	GLASS	LEADED	REEL PACK,AXIAL,STAN	5000	5000
			AMMOPACK,AXIAL,SMALL	50	50
SOD63			BULK PACK	1000	2000
			AMMOPACK,RADIAL	2500	12500
SOD64	GLASS	LEADED	BULK PACK	250	250
			BULK PACK	1000	1000
			BULK PACK	1500	1500
			BULK PACK	5000	5000
			REEL PACK,AXIAL,STAN	4000	4000
			AMMOPACK,AXIAL,SMALL	200	200
SOD68	GLASS	LEADED	BULK PACK	1000	1000
			BULK PACK	2000	2000
			REEL PACK,AXIAL,STAN	10000	10000
			REEL PACK,SMD,7"	2500	2500

case	material	mounting techn.	packing shape	SPQ	PQ
			REEL PACK,RADIAL	5000	5000
			REEL PACK,AXIAL,26MM	10000	10000
			AMMOPACK,AXIAL,52MM	10000	10000
			REEL PACK,RADIAL,REV	5000	5000
			AMMOPACK,AXIAL,26MM	5000	5000
			AMMOPACK,AXIAL,SMALL	1000	1000
SOD69	PLASTIC	LEADED	BULK PACK	600	600
SOD80	GLASS	SMD	BULK PACK	1000	10000
			REEL PACK,AXIAL,STAN	10000	10000
			REEL PACK,SMD,7"	2500	2500
			REEL PACK,SMD,LARGE	10000	10000
SOD81	GLASS	LEADED	BULK PACK	10	1000
			REEL PACK,AXIAL,STAN	5000	5000
			AMMOPACK,AXIAL,52MM	5000	5000
			AMMOPACK,AXIAL,26MM	5000	5000
			AMMOPACK,AXIAL,SMALL	500	500
			REEL PACK,AXIAL,CECC	5000	5000
SOD83	GLASS	LEADED	REEL PACK,AXIAL,STAN	1	1
			REEL PACK,AXIAL,STAN	2000	2000
			AMMOPACK,AXIAL,SMALL	50	50
SOD84	GLASS	LEADED	REEL PACK,AXIAL,STAN	5000	5000
			AMMOPACK,AXIAL,52MM	2500	2500
			AMMOPACK,AXIAL,SMALL	200	200
SOD87	GLASS	SMD	BULK PACK	1000	6000
			REEL PACK,SMD,7"	2000	2000
			REEL PACK,SMD,LARGE	8000	8000
SOD88A	GLASS	LEADED	REEL PACK,AXIAL,STAN	5000	5000
			AMMOPACK,AXIAL,SMALL	50	50
SOD91	GLASS	LEADED	REEL PACK,AXIAL,STAN	10000	10000
			AMMOPACK,AXIAL,52MM	10000	10000
			AMMOPACK,AXIAL,26MM	5000	5000
			AMMOPACK,AXIAL,SMALL	1000	1000
SOD101	PLASTIC	LEADED	BULK PACK	100	100
			BULK PACK	100	2000
SOD102			BULK PACK	1000	2000
SOD104			BULK PACK	1000	2000
SOD112			BULK PACK	3	30
SOD123	PLASTIC	SMD	REEL PACK,SMD,7"	3000	3000
			REEL PACK,SMD,LARGE	10000	10000
SOT5			BULK PACK	50	1000
			BULK PACK,CECC	50	1000
SOT23	PLASTIC	SMD	BULK PACK	500	25000
			REEL PACK,AXIAL,STAN	5000	5000
			REEL PACK,SMD,7"	3000	3000
			BULK PACK,SMD LOW PR	500	25000
			REEL PACK,SMD LOW PR	1000	1000
			REEL PACK,SMD LOW PR	3000	3000
			REEL PACK,SMD LOW PR	3000	3000
			REEL PACK,SMD LOW PR	10000	10000
SOT32			REEL PACK,RADIAL	2000	2000
			REEL PACK,RADIAL	2000	10000
			AMMOPACK,RADIAL	2000	10000
			HORIZONTAL RAIL PACK	50	1000
			HORIZONTAL RAIL PACK	1000	1000
SOT37	PLASTIC	LEADED	BULK PACK	500	9000
			BULK PACK,SMD LOW PR	500	25000
			REEL PACK,SMD LOW PR	3000	3000
			REEL PACK,SMD LOW PR	10000	10000
SOT38			BULK PACK	22	880
SOT48	PLASTIC	LEADED	BULK PACK	20	60
SOT49			BULK PACK	1	10

Details

Outline/Packaging (cont.)

case	material	mounting techn.	packing shape	SPQ	PQ
SOT54	PLASTIC	LEADED	BULK PACK	100	100
			BULK PACK	50	500
			BULK PACK	600	600
			BULK PACK	900	900
			BULK PACK	1000	1000
			BULK PACK	1000	5000
			REEL PACK,RADIAL	2000	2000
			REEL PACK,RADIAL	2000	10000
			AMMOPACK,RADIAL	2000	2000
			AMMOPACK,RADIAL	1000	5000
			AMMOPACK,RADIAL	2000	10000
			HORIZONTAL RAIL PACK	50	1000
			REEL PACK,RADIAL,REV	2000	10000
				1000	5000
			BULK PACK,STRAIGHT L	1000	5000
				2000	10000
SOT55	PLASTIC	LEADED	BULK PACK	20	40
			BULK PACK	15	60
			TRADE PACK	4	4
			TRADE PACK	4	32
SOT56	PLASTIC	LEADED	BULK PACK	20	60
			BULK PACK	25	75
			TRADE PACK	4	48
SOT82	PLASTIC	LEADED	HORIZONTAL RAIL PACK	50	1000
			HORIZONTAL RAIL PACK	1000	1000
SOT89	PLASTIC	SMD	BULK PACK	250	20000
			REEL PACK,SMD,7"	1000	1000
			REEL PACK,SMD,7",REV	1000	1000
			REEL PACK,SMD,LARGE	4000	4000
SOT90B	PLASTIC	LEADED	HORIZONTAL RAIL PACK	63	3150
			HORIZONTAL RAIL PACK	63	6237
SOT93	PLASTIC	LEADED	BULK PACK	25	500
			BULK PACK	25	1000
			HORIZONTAL RAIL PACK	25	150
			HORIZONTAL RAIL PACK	25	500
			HORIZONTAL RAIL PACK	500	500
SOT97			HORIZONTAL RAIL PACK	49	2450
SOT97F	PLASTIC	LEADED	HORIZONTAL RAIL PACK	49	2450
SOT100	CERAMIC	LEADED	BULK PACK	10	150
			BULK PACK	100	700
			BULK PACK	50	3500
SOT103	PLASTIC	LEADED	BULK PACK	500	5000
SOT115	METAL	LEADED	BULK PACK	25	100
			TRADE PACK	5	5
SOT119	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
SOT120	CERAMIC	LEADED	BULK PACK	20	60
SOT121	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	5	5
			TRADE PACK	4	32
SOT122	CERAMIC	LEADED	BULK PACK	20	40
			BULK PACK	20	60
			BULK PACK	25	75
			TRADE PACK	4	32
			TRADE PACK	4	48
SOT123	CERAMIC	LEADED	BULK PACK	20	40
			BULK PACK	20	60
			BULK PACK	4	200
			TRADE PACK	5	5
			TRADE PACK	4	32
SOT132			BULK PACK	12	36

Outline/Packaging (cont.)

case	material	mounting techn.	packing shape	SPQ	PQ
			BULK PACK	2	40
			BULK PACK	2	50
SOT139			BULK PACK	20	60
SOT143	PLASTIC	SMD	BULK PACK,SMD LOW PR	500	25000
			REEL PACK,SMD LOW PR	3000	3000
			REEL PACK,SMD LOW PR	10000	10000
SOT147	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
SOT148			BULK PACK	20	80
			TRADE PACK	1	1
SOT160	CERAMIC	LEADED	BULK PACK	25	75
SOT161	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
SOT171	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
SOT172	CERAMIC	LEADED	BULK PACK	20	40
			BULK PACK	20	60
			BULK PACK	25	75
			TRADE PACK	4	48
SOT173	CERAMIC	LEADED	BULK PACK	50	3500
			REEL PACK,SMD,7"	1000	1000
			REEL PACK,SMD,LONG L	600	600
SOT179	CERAMIC	LEADED	BULK PACK	20	60
SOT181	PLASTIC	LEADED	BULK PACK	4	100
			BULK PACK	30	150
SOT183			BULK PACK	15	75
SOT186	PLASTIC	LEADED	HORIZONTAL RAIL PACK	50	300
			HORIZONTAL RAIL PACK	50	1000
			HORIZONTAL RAIL PACK	1000	1000
SOT186A	PLASTIC	LEADED	HORIZONTAL RAIL PACK	50	1000
SOT194			HORIZONTAL RAIL PACK	50	1000
SOT195	PLASTIC	LEADED	BULK PACK	150	150
			BULK PACK	500	4000
			TRADE PACK	10	10
			TRADE PACK	100	1000
SOT197			BULK PACK	2	50
SOT199	PLASTIC	LEADED	BULK PACK	50	1000
			HORIZONTAL RAIL PACK	25	150
			HORIZONTAL RAIL PACK	25	500
			HORIZONTAL RAIL PACK	500	500
			HORIZONTAL RAIL PACK	33	660
			HORIZONTAL RAIL PACK	50	1000
SOT200	PLASTIC	LEADED	BULK PACK	2	50
SOT211	PLASTIC	LEADED	BULK PACK	500	1000
SOT212	PLASTIC	LEADED	HORIZONTAL RAIL PACK	63	2520
SOT223	PLASTIC	SMD	BULK PACK	250	20000
			BULK PACK	500	20000
			REEL PACK,SMD,7"	1000	1000
			REEL PACK,SMD,LARGE	4000	4000
SOT227	PLASTIC	LEADED	BULK PACK	3	30
			BULK PACK	5	50
			BULK PACK	10	100
			BULK PACK	20	100
			BULK PACK	25	100
			BULK PACK	100	100
			BULK PACK	50	1000
			BULK PACK	1000	5000
			HORIZONTAL RAIL PACK	10	100
			HORIZONTAL RAIL PACK	100	100
SOT228	PLASTIC	LEADED	HORIZONTAL RAIL PACK	55	2200
SOT229	PLASTIC	LEADED	HORIZONTAL RAIL PACK	55	2750

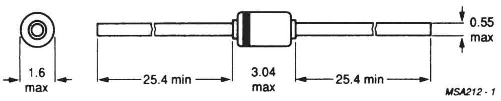
Details

Outline/Packaging (cont.)

case	material	mounting techn.	packing shape	SPQ	PQ
SOT230	PLASTIC	LEADED	HORIZONTAL RAIL PACK	55	2750
SOT231	PLASTIC	LEADED	HORIZONTAL RAIL PACK	55	2200
			HORIZONTAL RAIL PACK	55	4455
SOT242			BULK PACK	20	80
			TRADE PACK	1	1
SOT246	PLASTIC	LEADED	BULK PACK	2	50
			BULK PACK	15	75
SOT253			BULK PACK	100	200
			BULK PACK	50	2000
SOT262	CERAMIC	LEADED	BULK PACK	2	16
SOT263	PLASTIC	LEADED	HORIZONTAL RAIL PACK	50	1000
SOT268	CERAMIC	LEADED	BULK PACK	20	40
SOT271	PLASTIC	LEADED	HORIZONTAL RAIL PACK	42	1680
			HORIZONTAL RAIL PACK	42	3402
			MARKING BRANDING AS	42	3402
SOT273	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
SOT279	CERAMIC	LEADED	BULK PACK	20	40
SOT289	CERAMIC	LEADED	BULK PACK	20	40
			TRADE PACK	4	32
TO-5			HORIZONTAL RAIL PACK	55	2200
TO-18	METAL	LEADED	BULK PACK	1	1
			BULK PACK	1	12
			TRADE PACK	1	1
TO-39	METAL	LEADED	BULK PACK	50	1000
TO-46			BULK PACK	25	100
			TRADE PACK	5	5
TO-92	PLASTIC	LEADED	BULK PACK	1000	5000
			REEL PACK,RADIAL	2000	10000
			AMMOPACK,RADIAL	2000	10000
TO-126			REEL PACK,RADIAL	2000	10000
TO-220	PLASTIC	LEADED	BULK PACK	10	100
			BULK PACK	25	250
			BULK PACK	25	600
			HORIZONTAL RAIL PACK	50	600
			HORIZONTAL RAIL PACK	50	1000
			HORIZONTAL RAIL PACK	1000	1000
TO-238			BULK PACK	5	50
			BULK PACK	10	300

Package outlines

DO-34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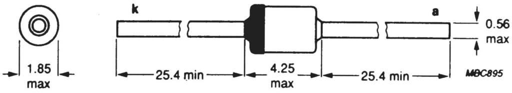
DO-35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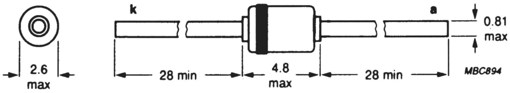
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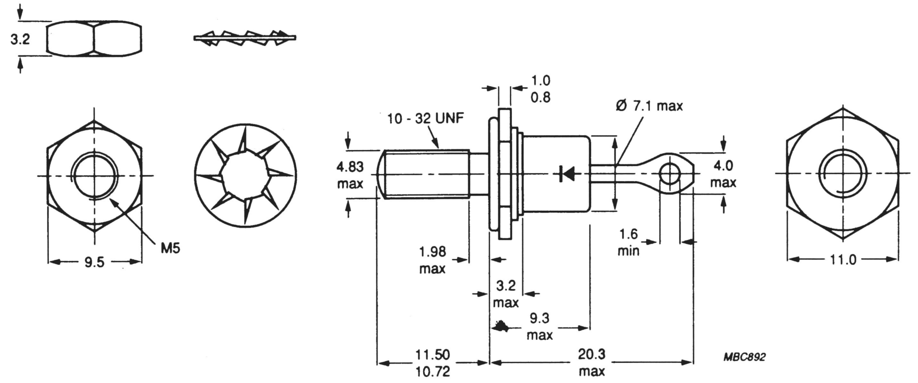
DO-4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0.8
10 - 32 UNF
Ø 7.1 max
4.83
max
4.0
max
M5
9.5
1.6
min
1.98
max
3.2
max
9.3
max
11.0
11.50
10.72
20.3
max
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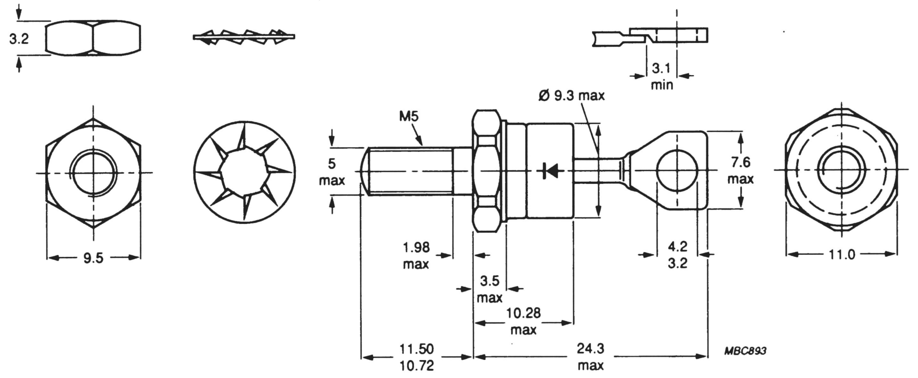
DO-4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3.1
min
Ø 9.3 max
M5
5
max
7.6
max
9.5
1.98
max
4.2
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11.0
3.5
max
10.28
max
11.50
10.72
24.3
max
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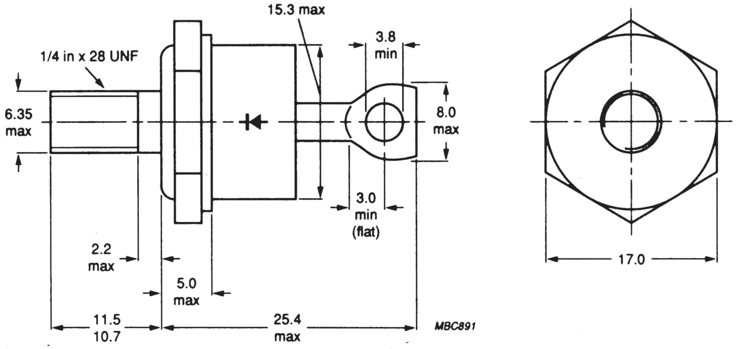
DO-5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1/4 in x 28 UNF
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min
6.35
max
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max
3.0
min
(flat)
2.2
max
5.0
max
11.5
10.7
25.4
max
17.0
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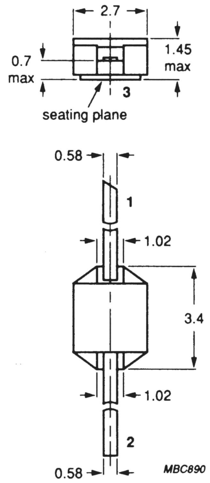
FO102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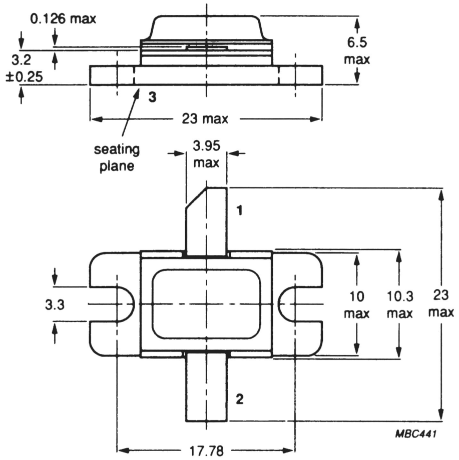
FO125A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max
3
23 max
seating
plane
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1
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max
23
max
2
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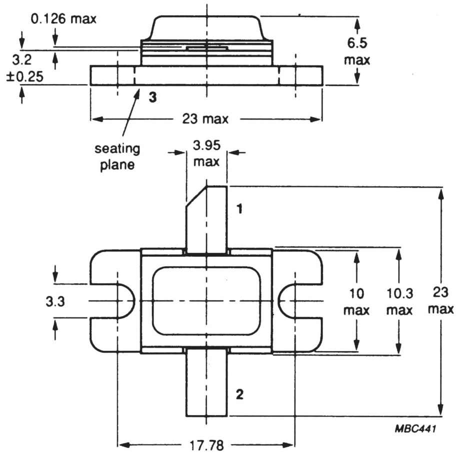
FO129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3.2
±0.25
6.5
max
3
23 max
seating
plane
3.95
max
1
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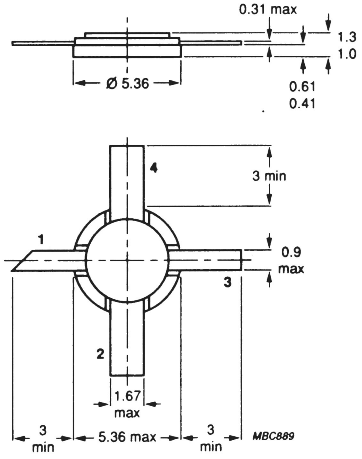
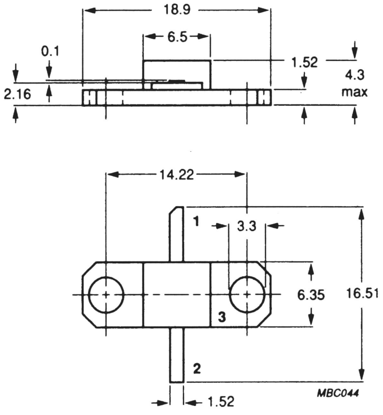
10
max
10.3
max
23
max
2
17.78
MBC441

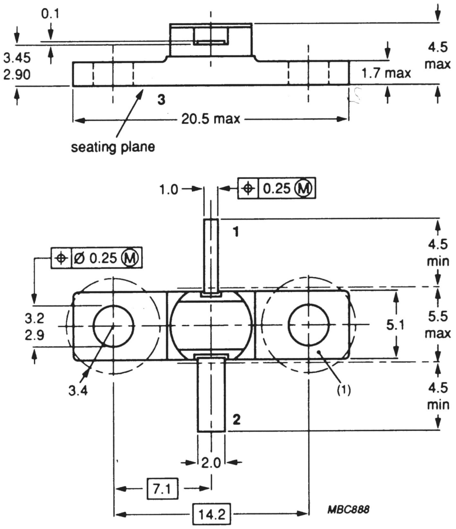
FO163


0.31 max
1.3
1.0
Ø 5.36
0.61
0.41
4
3 min
1
0.9
max
3
2
1.67
max
3
min
5.36 max
3
min
MBC889

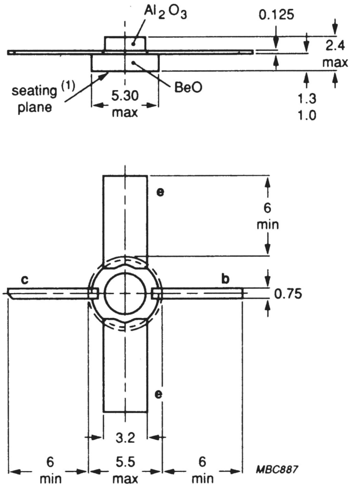
FO229


18.9
6.5
0.1
1.52
4.3
max
2.16
14.22
1
3.3
6.35
16.51
3
2
1.52
MBC044

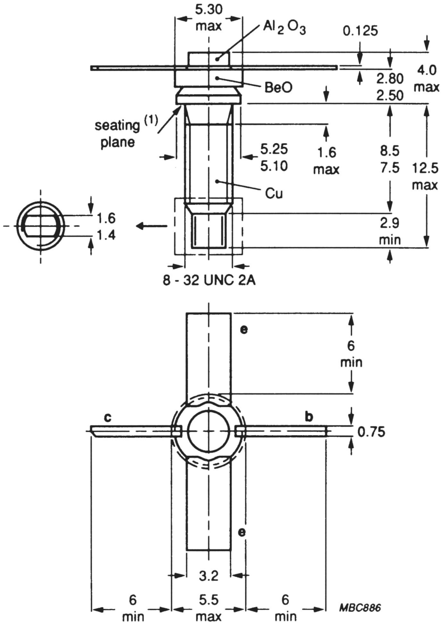
FO41B


0.1
3.45
2.90
4.5
max
1.7 max
3
20.5 max
seating plane
1.0
0.25 M
1
4.5
min
Ø 0.25 M
3.2
2.9
5.5
max
5.1
3.4
(1)
4.5
min
2
2.0
7.1
14.2
MBC888

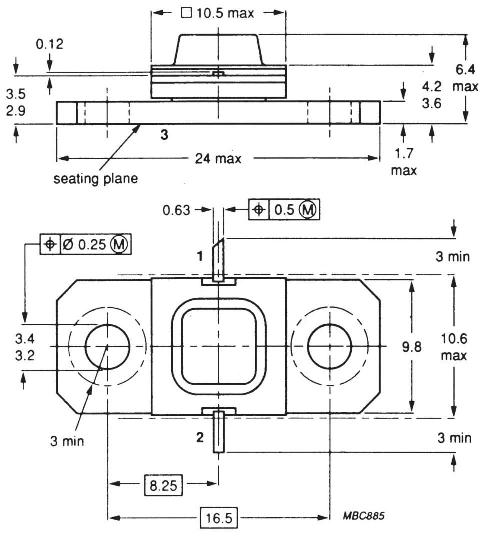
FO45


Al₂O₃
0.125
2.4
max
seating (1)
plane
5.30
max
BeO
1.3
1.0
e
6
min
c
b
0.75
e
3.2
6
min
5.5
max
6
min
MBC887

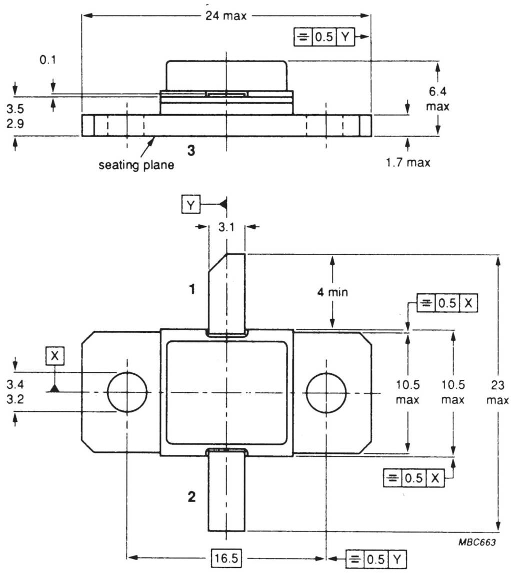
FO46


5.30
max
Al₂O₃
0.125
4.0
max
2.80
2.50
BeO
seating (1)
plane
5.25
5.10
1.6
max
8.5
7.5
12.5
max
Cu
1.6
1.4
2.9
min
8 - 32 UNC 2A
e
6
min
c
b
0.75
e
3.2
6
min
5.5
max
6
min
MBC886

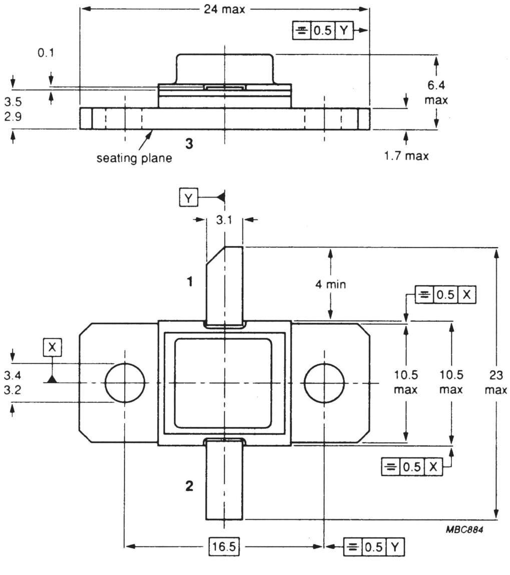
FO57


□ 10.5 max
0.12
3.5
2.9
6.4
max
4.2
3.6
3
24 max
1.7
max
seating plane
0.63
⌖ 0.5 Ⓜ
⌖ Ø 0.25 Ⓜ
1
3 min
3.4
3.2
9.8
10.6
max
3 min
2
3 min
8.25
16.5
MBC885

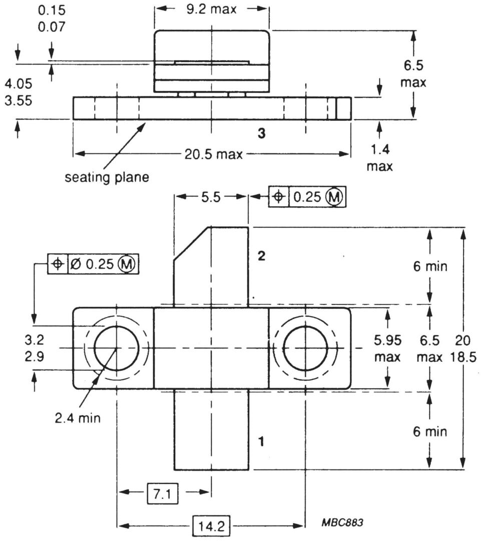
FO57C


24 max
≡ 0.5 Y
0.1
3.5
2.9
6.4
max
3
seating plane
1.7 max
Y
3.1
1
4 min
≡ 0.5 X
X
3.4
3.2
10.5
max
10.5
max
23
max
≡ 0.5 X
2
MBC663
16.5
≡ 0.5 Y

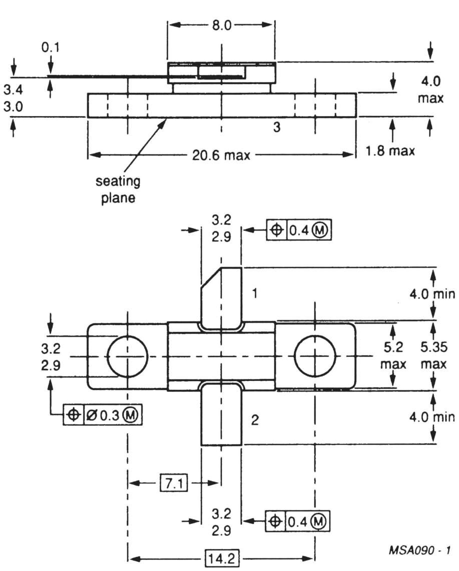
FO57D


24 max
≡ 0.5 Y
0.1
3.5
2.9
6.4
max
3
seating plane
1.7 max
Y
3.1
1
4 min
≡ 0.5 X
X
3.4
3.2
10.5
max
10.5
max
23
max
≡ 0.5 X
2
MBC884
16.5
≡ 0.5 Y

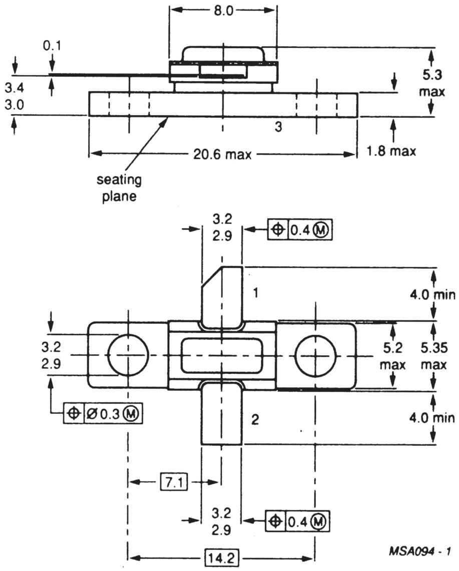
FO67


0.15
0.07
9.2 max
4.05
3.55
6.5
max
3
20.5 max
1.4
max
seating plane
5.5
⌖ 0.25 Ⓜ
⌖ Ø 0.25 Ⓜ
2
6 min
3.2
2.9
5.95
max
6.5
max
20
18.5
2.4 min
1
6 min
7.1
14.2
MBC883

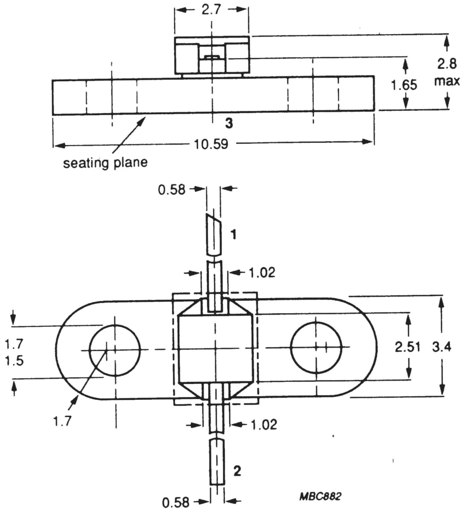
FO83A


8.0
0.1
3.4
3.0
4.0
max
3
20.6 max
1.8 max
seating
plane
3.2
2.9
0.4 Ⓜ
1
4.0 min
3.2
2.9
5.2
max
5.35
max
Ø0.3 Ⓜ
2
4.0 min
7.1
3.2
2.9
0.4 Ⓜ
14.2
MSA090 - 1

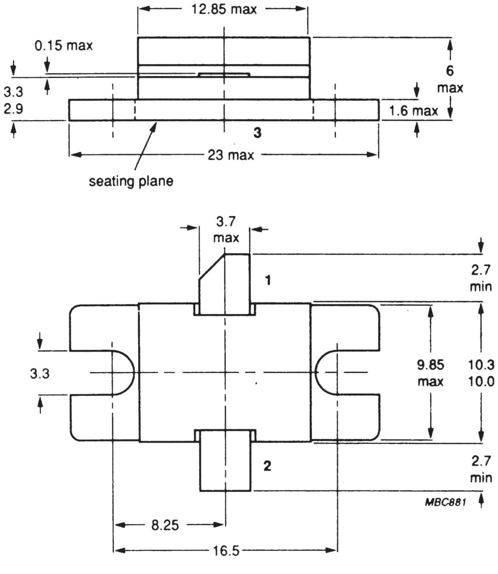
FO83B


8.0
0.1
3.4
3.0
5.3
max
3
20.6 max
1.8 max
seating
plane
3.2
2.9
0.4 Ⓜ
1
4.0 min
3.2
2.9
5.2
max
5.35
max
Ø0.3 Ⓜ
2
4.0 min
7.1
3.2
2.9
0.4 Ⓜ
14.2
MSA094 - 1

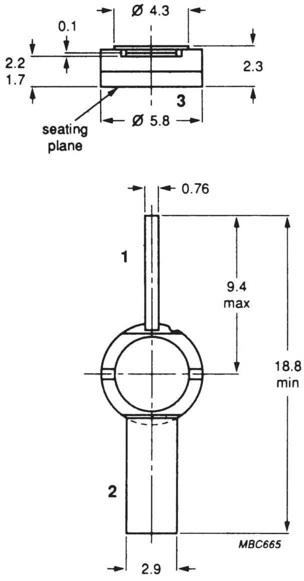
FO85


2.7
2.8
max
1.65
3
10.59
seating plane
0.58
1
1.02
1.7
1.5
2.51
3.4
1.7
1.02
2
0.58
MBC882

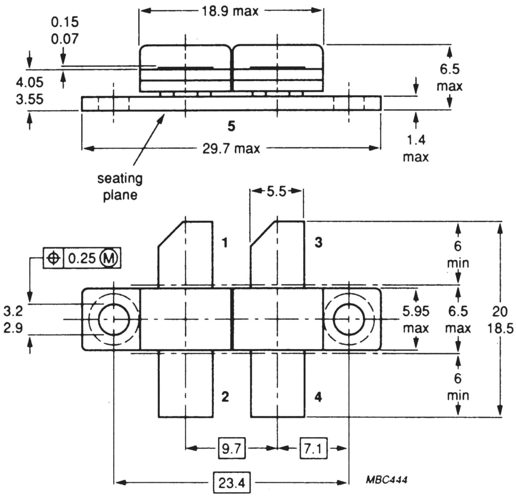
FO91


12.85 max
0.15 max
3.3
2.9
6
max
1.6 max
3
23 max
seating plane
3.7
max
1
2.7
min
3.3
9.85
max
10.3
10.0
2
2.7
min
MBC881
8.25
16.5

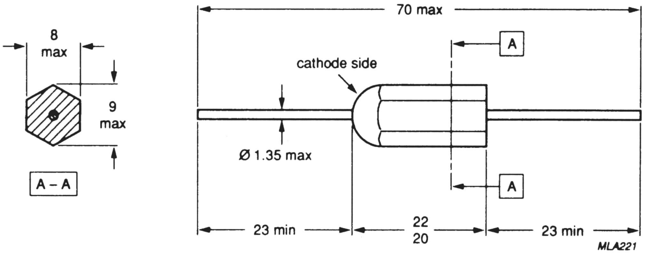
FO93


Ø 4.3
0.1
2.2
1.7
2.3
3
seating plane
Ø 5.8
0.76
1
9.4 max
18.8 min
2
MBC665
2.9

FO96

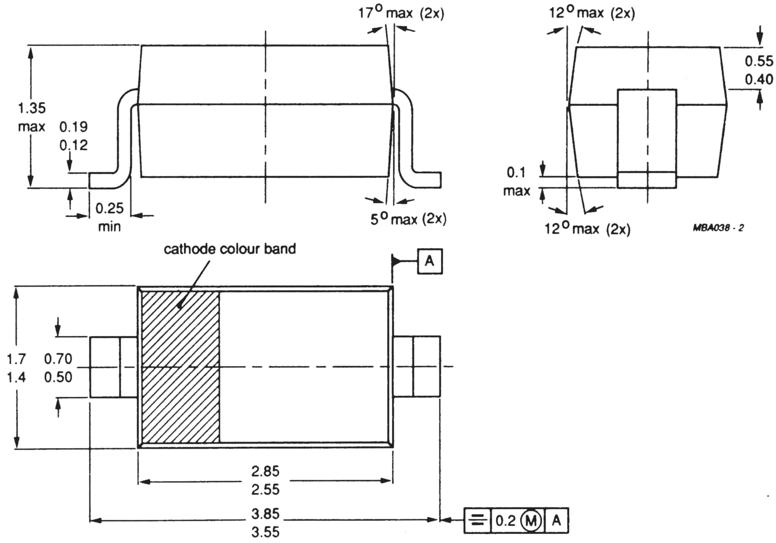

18.9 max
0.15
0.07
4.05
3.55
6.5 max
5
29.7 max
1.4 max
seating plane
5.5
⊕ 0.25 Ⓜ
1
3
6 min
3.2
2.9
5.95 max
6.5 max
20
18.5
6 min
2
4
9.7
7.1
23.4
MBC444

SOD101

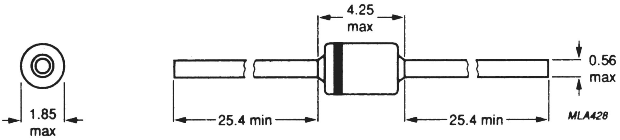

8 max
9 max
A – A
70 max
A
cathode side
Ø 1.35 max
A
23 min
22
20
23 min
MLA221

Package outlines

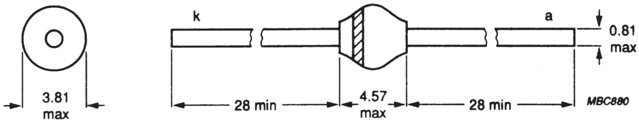
SOD123


17° max (2x)
12° max (2x)
0.55
0.40
1.35
max
0.19
0.12
0.1
max
0.25
min
5° max (2x)
12° max (2x)
MBA038 - 2
cathode colour band
A
1.7
1.4
0.70
0.50
2.85
2.55
3.85
3.55
0.2 M A

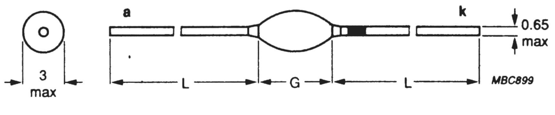
SOD27


4.25
max
0.56
max
1.85
max
25.4 min
25.4 min
MLA428

SOD57

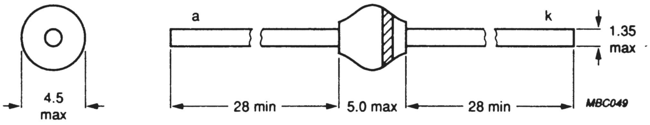

k
a
0.81
max
3.81
max
28 min
4.57
max
28 min
MBC880

SOD61

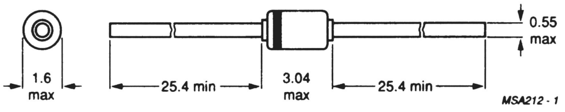

a
k
0.65
max
3
max
L
G
L
MBC899

Package outlines

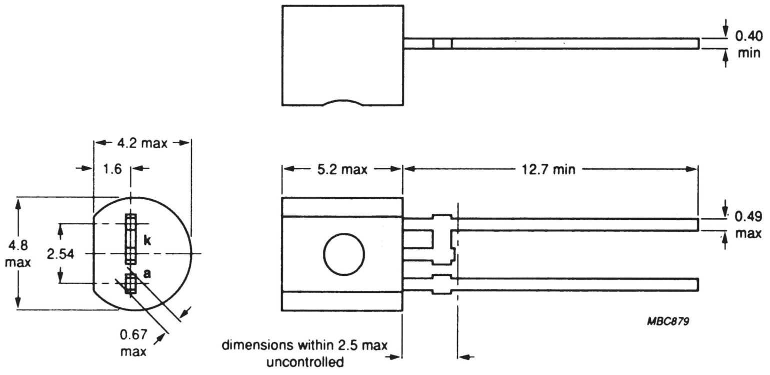
SOD64


a
k
1.35 max
4.5 max
28 min
5.0 max
28 min
MBC049

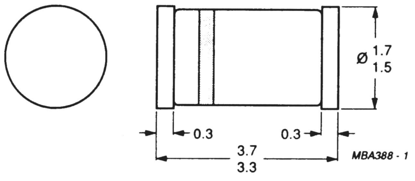
SOD68


0.55 max
1.6 max
25.4 min
3.04 max
25.4 min
MSA212 - 1

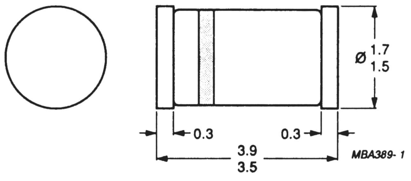
SOD69


0.40 min
4.2 max
1.6
4.8 max
2.54
k
a
0.67 max
5.2 max
12.7 min
0.49 max
MBC879
dimensions within 2.5 max uncontrolled

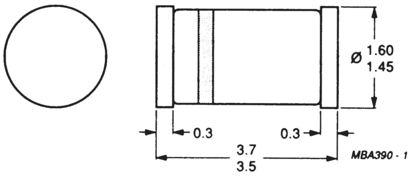
SOD80A


Ø 1.7 1.5
0.3
0.3
3.7 3.3
MBA388 - 1

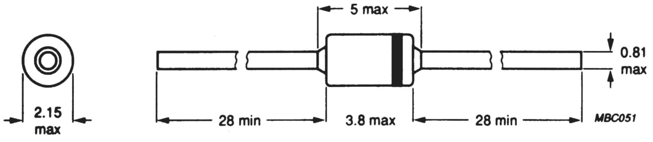
SOD80B


Ø 1.7 1.5
0.3
0.3
3.9 3.5
MBA389- 1

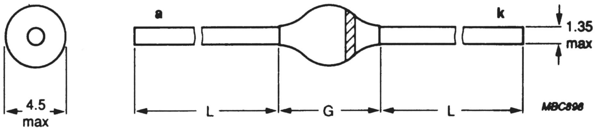
SOD80C


Ø 1.60 1.45
0.3
0.3
3.7 3.5
MBA390 - 1

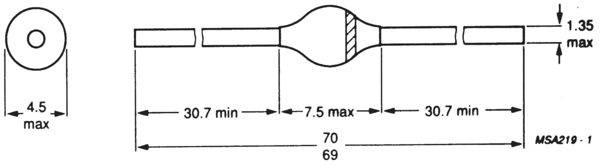
SOD81


5 max
0.81
max
2.15
max
28 min
3.8 max
28 min
MBC051

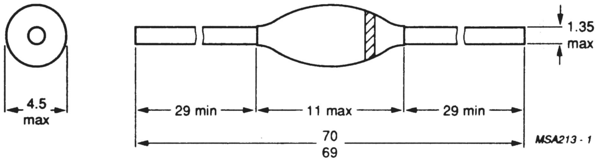
SOD83


a
k
1.35
max
4.5
max
L
G
L
MBC898

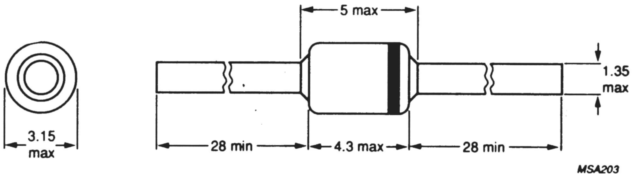
SOD83A


1.35
max
4.5
max
30.7 min
7.5 max
30.7 min
70
69
MSA219 - 1

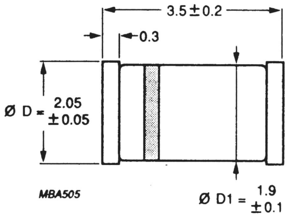
SOD83B


1.35
max
4.5
max
29 min
11 max
29 min
70
69
MSA213 - 1

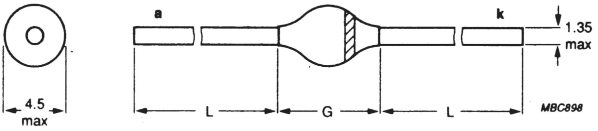
SOD84


5 max
1.35
max
3.15
max
28 min
4.3 max
28 min
MSA203

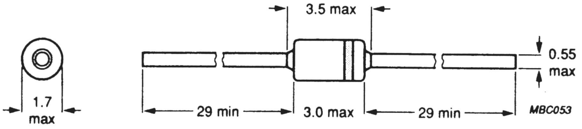
SOD87


3.5±0.2
0.3
Ø D = 2.05 ±0.05
Ø D1 = 1.9 ±0.1
MBA505

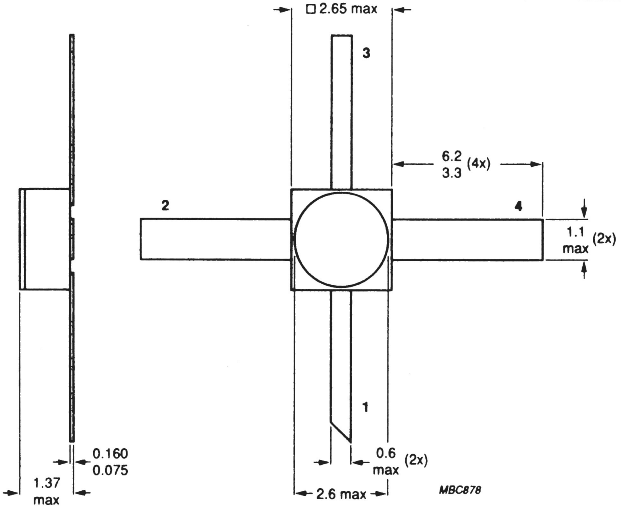
SOD88A


a
k
1.35 max
4.5 max
L
G
L
MBC898

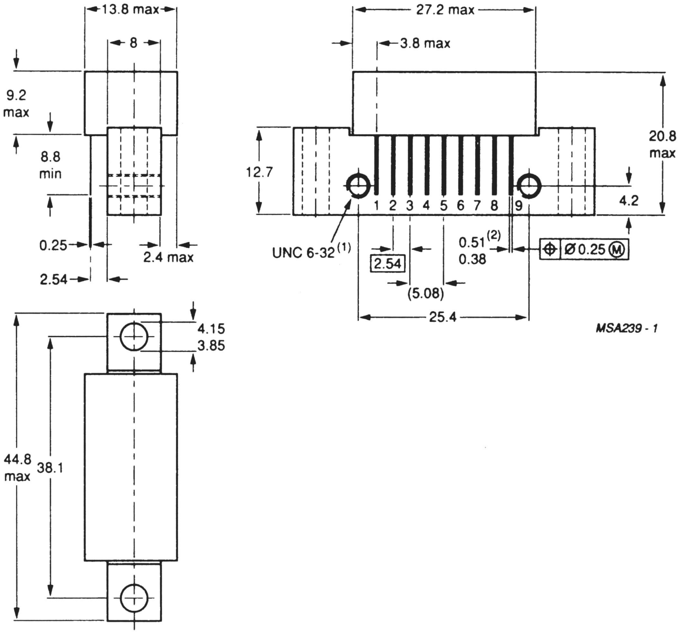
SOD91


3.5 max
0.55 max
1.7 max
29 min
3.0 max
29 min
MBC053

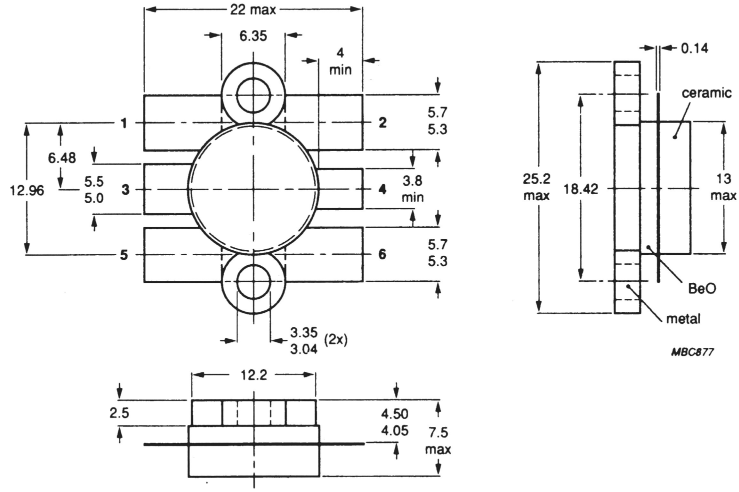
SOT100


□ 2.65 max
3
6.2
3.3
(4x)
2
4
1.1 max
(2x)
1
0.160
0.075
1.37 max
0.6 max
(2x)
2.6 max
MBC878

SOT115


13.8 max
8
9.2
max
8.8
min
0.25
2.4 max
2.54
27.2 max
3.8 max
12.7
20.8
max
4.2
1 2 3 4 5 6 7 8 9
UNC 6-32 (1)
2.54
(5.08)
0.51 (2)
0.38
⊕ Ø0.25 Ⓜ
25.4
MSA239 - 1
4.15
3.85
44.8
max
38.1

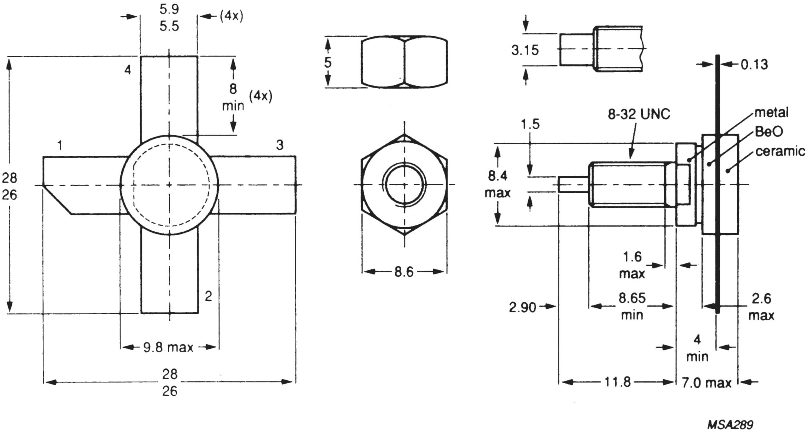
SOT119


22 max
6.35
4
min
1
2
5.7
5.3
6.48
12.96
5.5
5.0
3
4
3.8
min
5
6
5.7
5.3
3.35
3.04
(2x)
0.14
ceramic
25.2
max
18.42
13
max
BeO
metal
MBC877
12.2
2.5
4.50
4.05
7.5
max

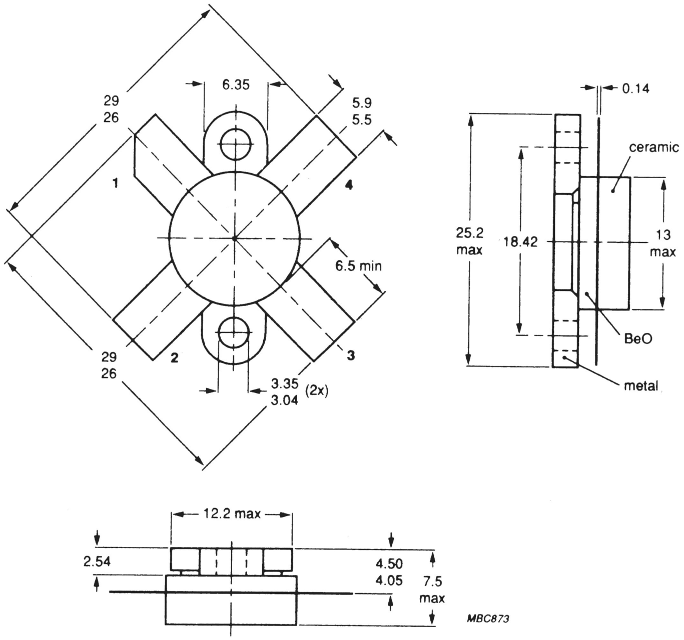
DISCRETE SEMICONDUCTORS

Package outlines

SOT120

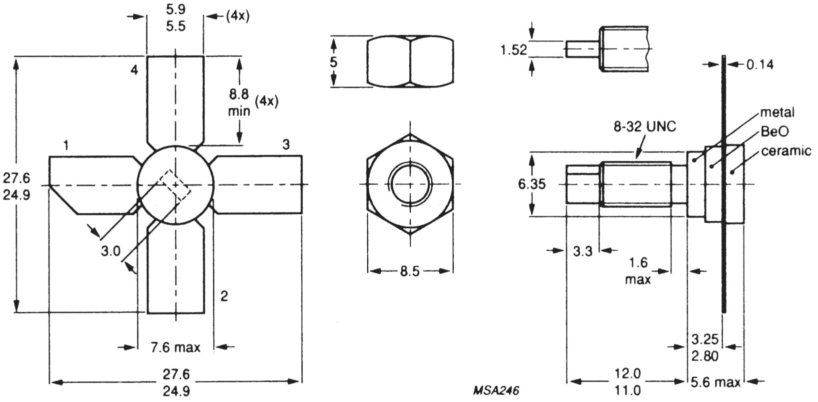

5.9
5.5
(4x)
4
8
min
(4x)
1
3
28
26
2
9.8 max
28
26
5
8.6
3.15
0.13
1.5
8-32 UNC
metal
BeO
ceramic
8.4
max
1.6
max
2.90
8.65
min
2.6
max
4
min
11.8
7.0 max
MSA289

SOT121

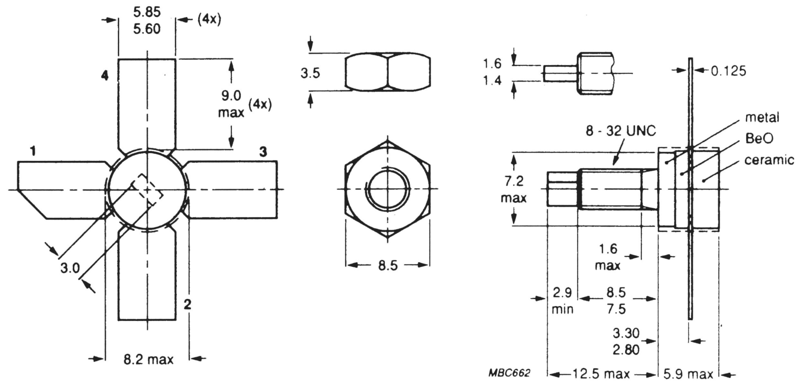

6.35
29
26
5.9
5.5
1
4
6.5 min
2
3
29
26
3.35
3.04
(2x)
0.14
ceramic
25.2
max
18.42
13
max
BeO
metal
12.2 max
2.54
4.50
4.05
7.5
max
MBC873

Package outlines

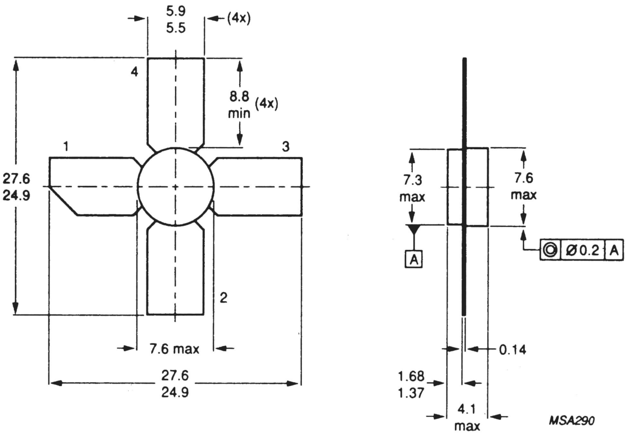
SOT122A


5.9
5.5
(4x)
4
8.8
min
(4x)
1
3
27.6
24.9
3.0
2
7.6 max
27.6
24.9
5
8.5
1.52
0.14
8-32 UNC
metal
BeO
ceramic
6.35
3.3
1.6
max
3.25
2.80
12.0
11.0
5.6 max
MSA246

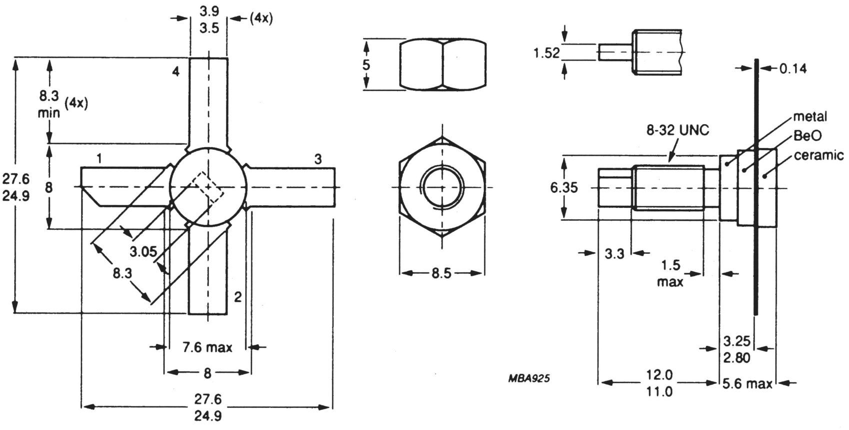
SOT122A (CAEN)


5.85
5.60
(4x)
4
9.0
max
(4x)
1
3
3.0
2
8.2 max
3.5
8.5
1.6
1.4
0.125
8 - 32 UNC
metal
BeO
ceramic
7.2
max
1.6
max
2.9
min
8.5
7.5
3.30
2.80
12.5 max
5.9 max
MBC662

SOT122D

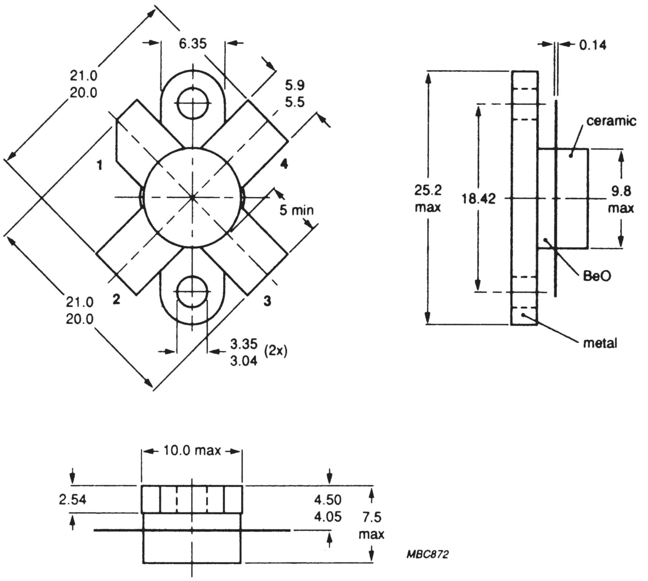

5.9
5.5
(4x)
4
8.8 min (4x)
1
3
27.6
24.9
2
7.6 max
27.6
24.9
7.3 max
7.6 max
A
◎ Ø0.2 A
0.14
1.68
1.37
4.1 max
MSA290

SOT122F

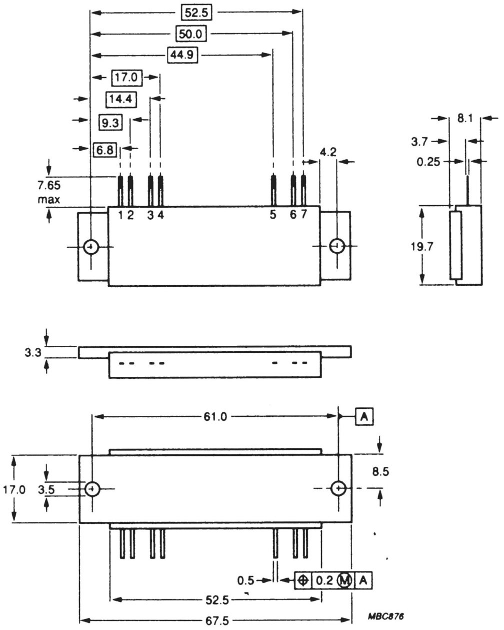

3.9
3.5
(4x)
4
8.3 min (4x)
1
3
27.6
24.9
8
3.05
8.3
2
7.6 max
8
27.6
24.9
5
8.5
1.52
0.14
8-32 UNC
metal
BeO
ceramic
6.35
3.3
1.5 max
3.25
2.80
12.0
11.0
5.6 max
MBA925

Package outlines

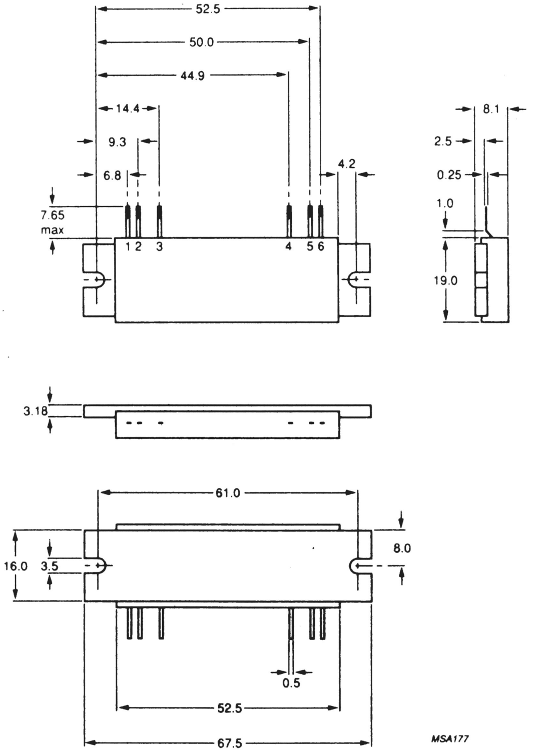
SOT123


6.35
21.0
20.0
5.9
5.5
1
4
5 min
21.0
20.0
2
3
3.35
3.04
(2x)
0.14
ceramic
25.2
max
18.42
9.8
max
BeO
metal
10.0 max
2.54
4.50
4.05
7.5
max
MBC872

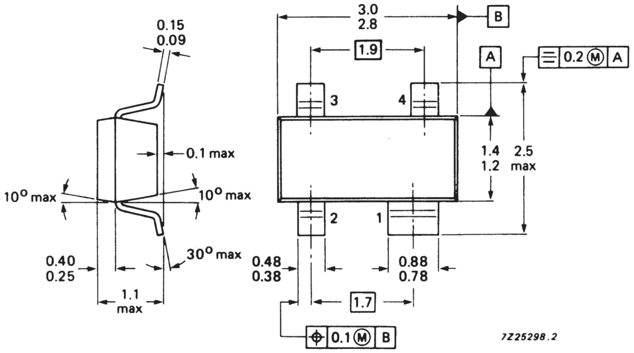
SOT132B


52.5
50.0
44.9
17.0
14.4
9.3
6.8
4.2
7.65
max
1 2 3 4 5 6 7
8.1
3.7
0.25
19.7
3.3
61.0
A
17.0
3.5
8.5
0.5
⊕ 0.2 Ⓜ A
52.5
67.5
MBC876

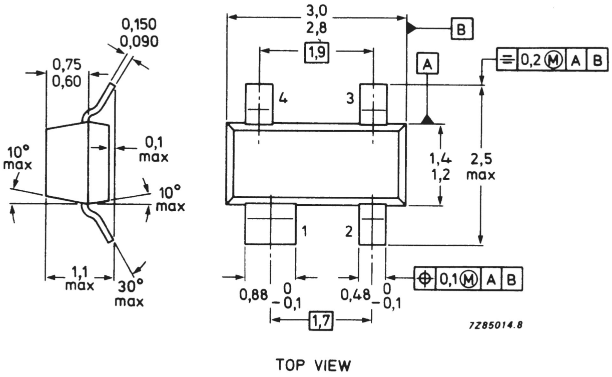
SOT132H


52.5
50.0
44.9
14.4
9.3
6.8
4.2
7.65
max
1 2 3 4 5 6
8.1
2.5
0.25
1.0
19.0
3.18
61.0
16.0
3.5
8.0
0.5
52.5
67.5
MSA177

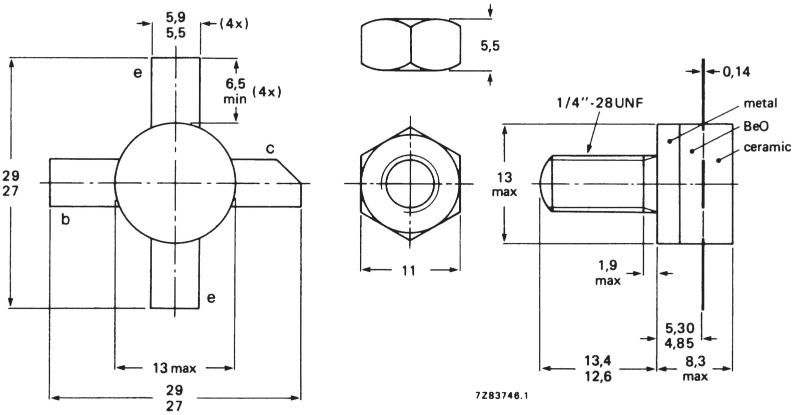
SOT143R


0.15
0.09
0.1 max
10° max
10° max
0.40
0.25
30° max
1.1
max
3.0
2.8
B
1.9
A
0.2 M A
3
4
1.4
1.2
2.5
max
2
1
0.48
0.38
0.88
0.78
1.7
0.1 M B
7Z25298.2

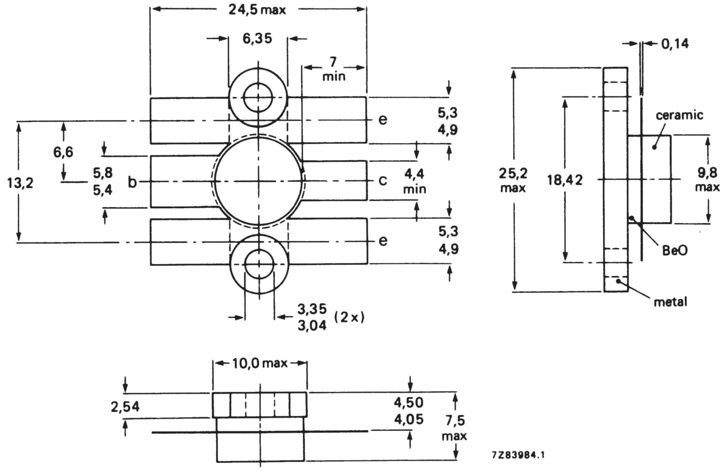
SOT143


0,150
0,090
0,75
0,60
10°
max
0,1
max
10°
max
1,1
max
30°
max
3,0
2,8
B
1,9
A
0,2 M A B
4
3
1,4
1,2
2,5
max
1
2
0,88 0 −0,1
0,48 0 −0,1
1,7
0,1 M A B
7Z85014.8
TOP VIEW

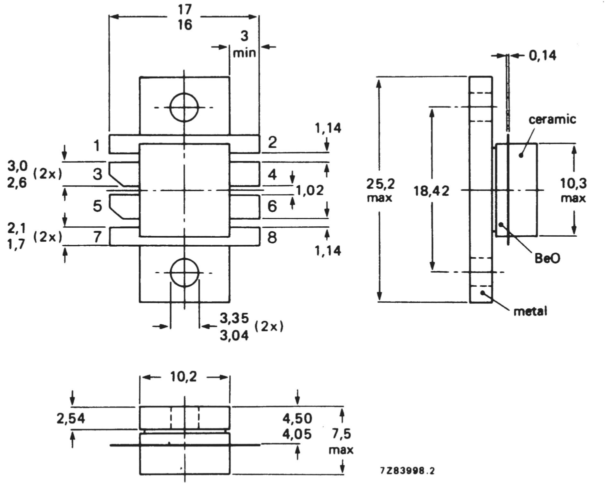
SOT147


5,9
5,5
(4x)
6,5
min
(4x)
e
c
29
27
b
e
13 max
29
27
5,5
11
13
max
1/4"-28UNF
0,14
metal
BeO
ceramic
1,9
max
5,30
4,85
13,4
12,6
8,3
max
7Z83746.1

SOT160

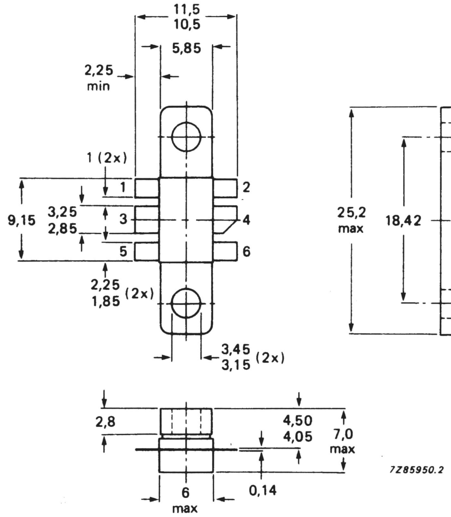

24,5 max
6,35
7 min
0,14
e
5,3
4,9
ceramic
6,6
13,2
5,8
5,4
b
c
4,4 min
25,2 max
18,42
9,8 max
e
5,3
4,9
BeO
metal
3,35
3,04
(2x)
10,0 max
2,54
4,50
4,05
7,5 max
7Z83984.1

SOT161

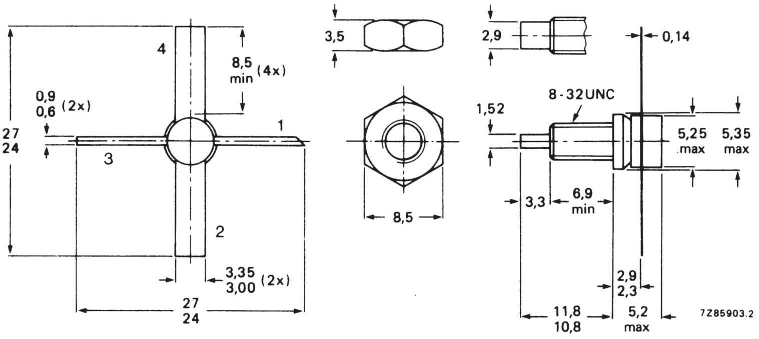

17
16
3 min
0,14
ceramic
1,14
1
2
3,0
2,6
(2x)
3
4
1,02
5
6
25,2 max
18,42
10,3 max
2,1
1,7
(2x)
7
8
1,14
BeO
metal
3,35
3,04
(2x)
10,2
2,54
4,50
4,05
7,5 max
7Z83998.2

Package outlines

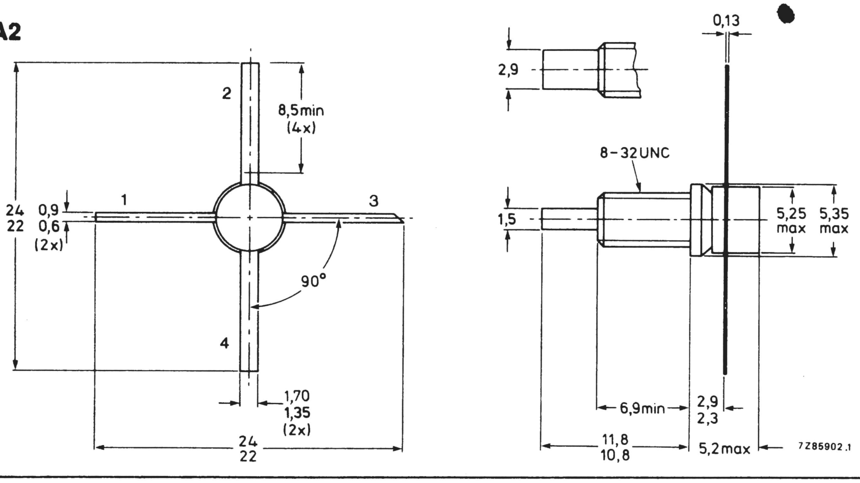
SOT171


11,5
10,5
5,85
2,25
min
1 (2x)
1
2
3
4
5
6
9,15
3,25
2,85
2,25
1,85 (2x)
3,45
3,15 (2x)
25,2
max
18,42
9,3
max
2,8
4,50
4,05
7,0
max
6
max
0,14
7Z85950.2

SOT172A1


4
8,5 (4x)
min
0,9
0,6 (2x)
27
24
1
3
2
3,35
3,00 (2x)
27
24
3,5
8,5
2,9
0,14
8-32UNC
1,52
5,25
max
5,35
max
3,3
6,9
min
2,9
2,3
11,8
10,8
5,2
max
7Z85903.2

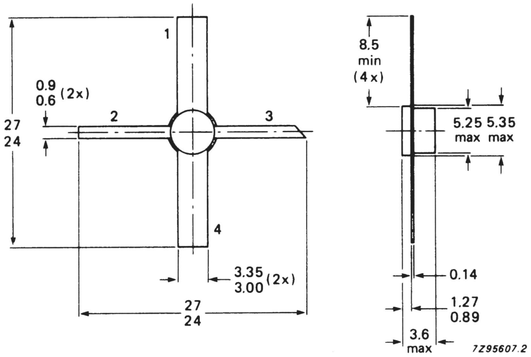
SOT172A2


2
8,5min
(4x)
24
22
0,9
0,6
(2x)
1
3
90°
4
1,70
1,35
(2x)
24
22
0,13
2,9
8-32UNC
1,5
5,25
max
5,35
max
6,9min
2,9
2,3
11,8
10,8
5,2max
7Z85902.1

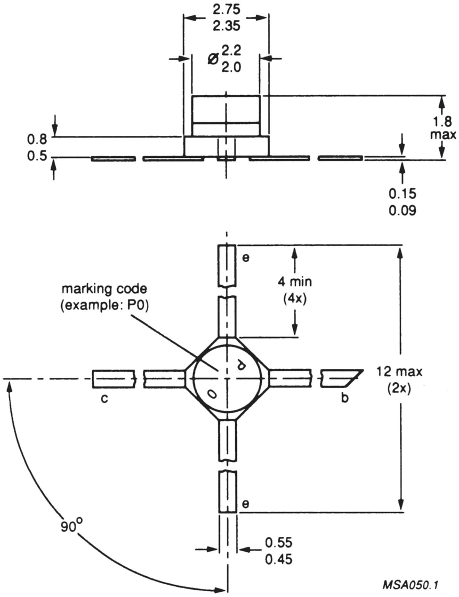
DISCRETE SEMICONDUCTORS

Package outlines

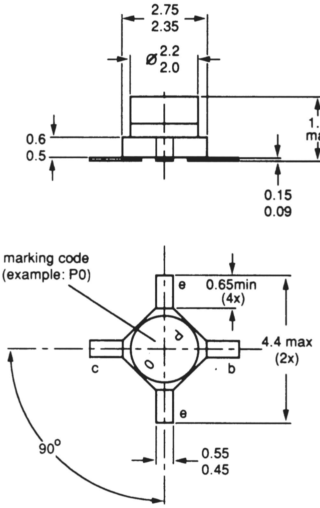
SOT172D


1
0.9
0.6 (2x)
2
3
27
24
4
3.35
3.00 (2x)
27
24
8.5
min
(4x)
5.25 max
5.35 max
0.14
1.27
0.89
3.6
max
7Z95607.2

SOT173

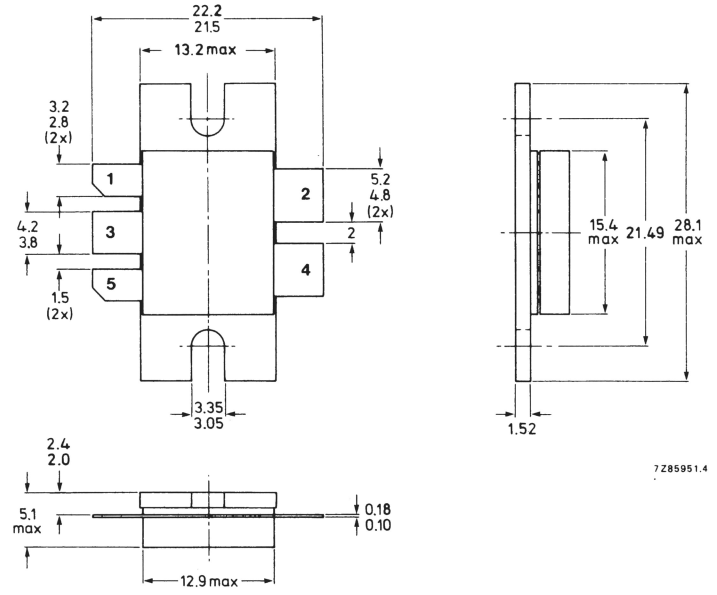

2.75
2.35
Ø 2.2
2.0
0.8
0.5
1.8
max
0.15
0.09
e
4 min
(4x)
marking code
(example: P0)
P
0
c
b
12 max
(2x)
e
90°
0.55
0.45
MSA050.1

SOT173X

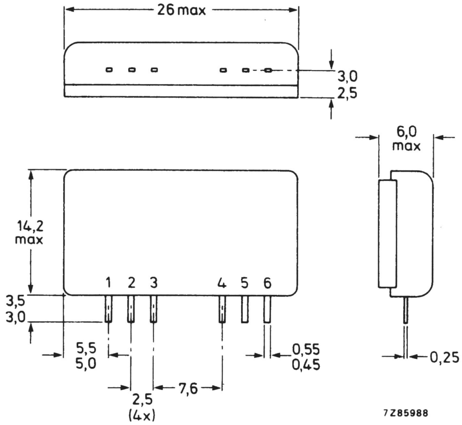

2.75
2.35
Ø 2.2
2.0
0.6
0.5
1.8
max
0.15
0.09
marking code
(example: P0)
e
0.65min
(4x)
P
0
c
b
4.4 max
(2x)
e
90°
0.55
0.45

Package outlines

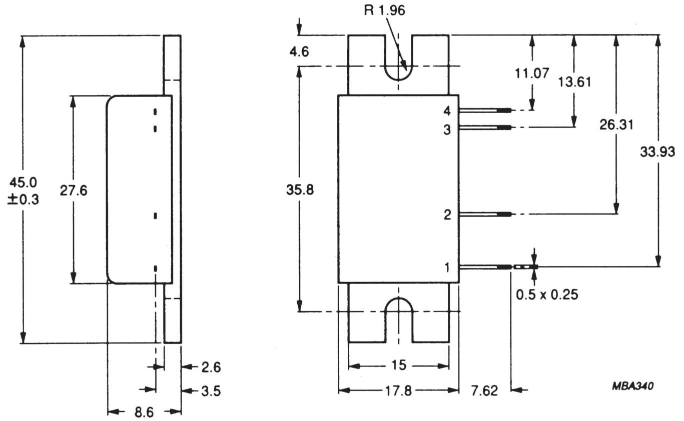
SOT179


22.2
21.5
13.2 max
3.2
2.8
(2x)
1
2
3
4
5
5.2
4.8
(2x)
4.2
3.8
2
1.5
(2x)
3.35
3.05
15.4
max
21.49
28.1
max
1.52
2.4
2.0
5.1
max
0.18
0.10
12.9 max
7Z85951.4

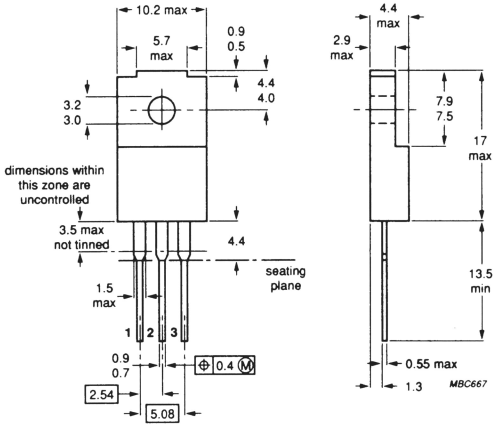
SOT181


26 max
3,0
2,5
6,0
max
14,2
max
1
2
3
4
5
6
3,5
3,0
5,5
5,0
0,55
0,45
0,25
2,5
(4x)
7,6
7Z85988

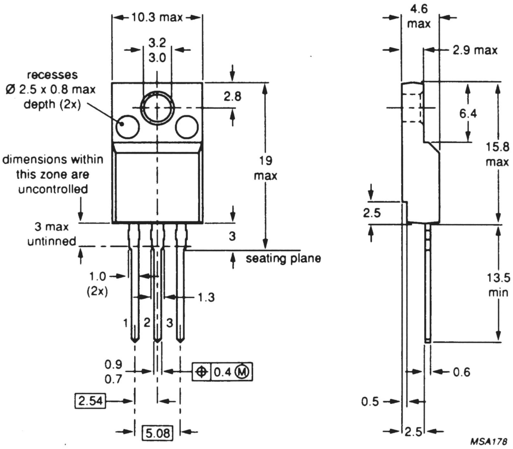
SOT183A


R 1.96
4.6
11.07
13.61
26.31
33.93
4
3
2
1
45.0
±0.3
27.6
35.8
0.5 x 0.25
2.6
3.5
8.6
15
17.8
7.62
MBA340

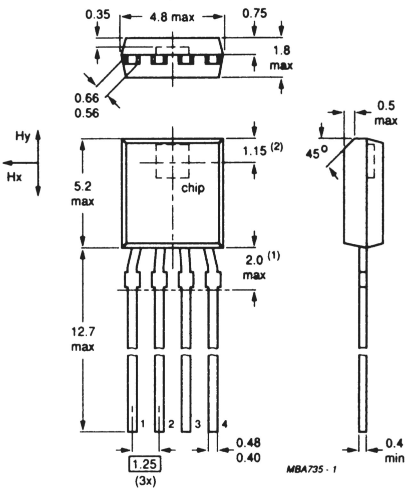
SOT186


10.2 max
5.7
max
0.9
0.5
4.4
4.0
3.2
3.0
dimensions within
this zone are
uncontrolled
3.5 max
not tinned
4.4
seating
plane
1.5
max
1
2
3
0.9
0.7
0.4 M
2.54
5.08
4.4
max
2.9
max
7.9
7.5
17
max
13.5
min
0.55 max
1.3
MBC667

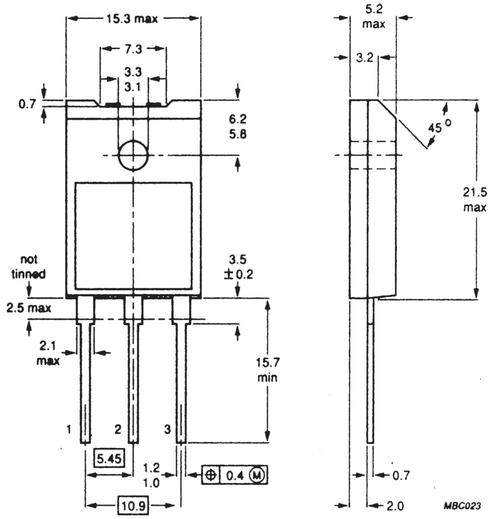
SOT186A


10.3 max
3.2
3.0
recesses
Ø 2.5 x 0.8 max
depth (2x)
2.8
dimensions within
this zone are
uncontrolled
19
max
3 max
untinned
3
seating plane
1.0
(2x)
1.3
1
2
3
0.9
0.7
0.4 M
2.54
5.08
4.6
max
2.9 max
6.4
15.8
max
2.5
13.5
min
0.6
0.5
2.5
MSA178

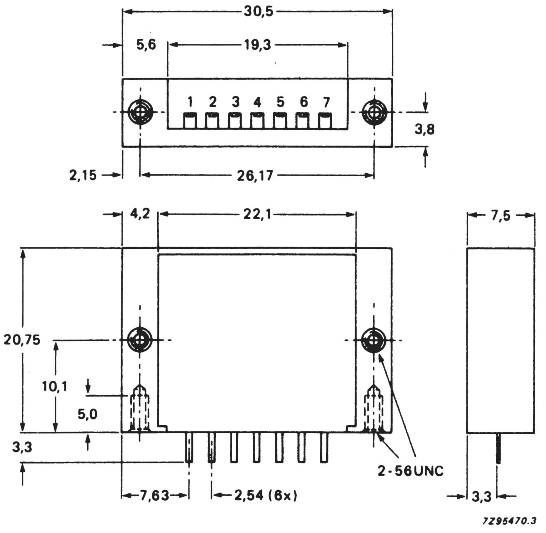
SOT195


0.35
4.8 max
0.75
1.8
max
0.66
0.56
Hy
Hx
5.2
max
1.15 (2)
chip
0.5
max
45°
2.0 (1)
max
12.7
max
1
2
3
4
0.48
0.40
1.25
(3x)
0.4
min
MBA735 - 1

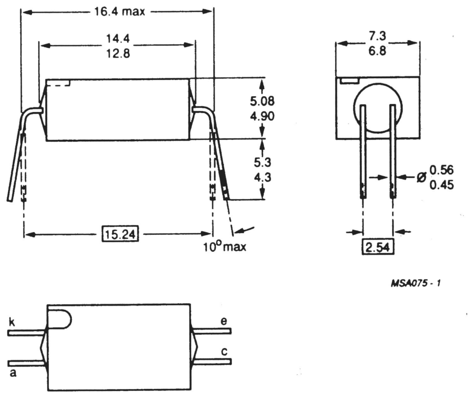
SOT199


15.3 max
7.3
3.3
3.1
0.7
6.2
5.8
5.2
max
3.2
45°
21.5
max
not
tinned
3.5
±0.2
2.5 max
2.1
max
15.7
min
1
2
3
5.45
1.2
1.0
⊕ 0.4 Ⓜ
10.9
0.7
2.0
MBC023

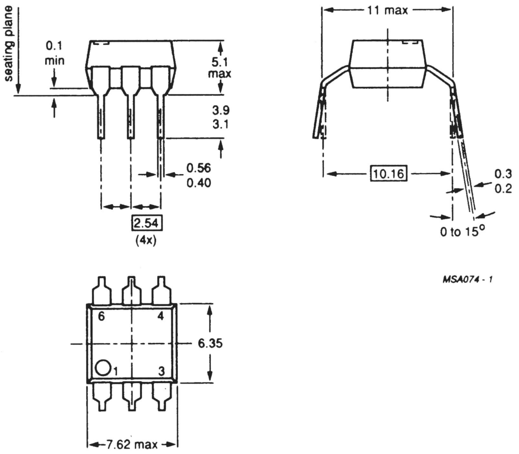
SOT200


30,5
5,6
19,3
1 2 3 4 5 6 7
3,8
2,15
26,17
4,2
22,1
7,5
20,75
10,1
5,0
3,3
2-56UNC
7,63
2,54 (6x)
3,3
7Z95470.3

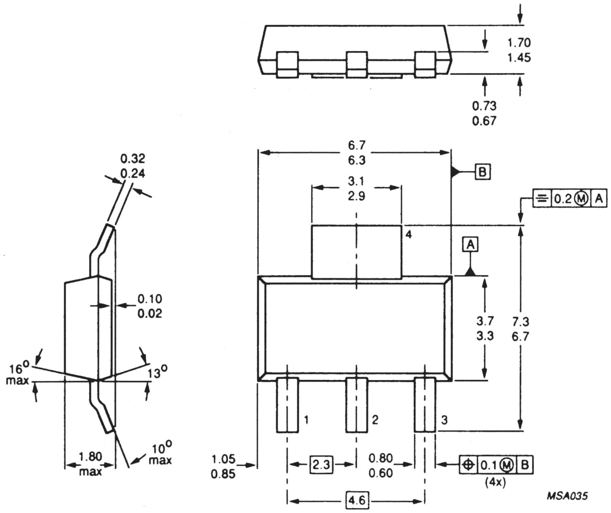
SOT211


16.4 max
14.4
12.8
5.08
4.90
5.3
4.3
15.24
10° max
7.3
6.8
Ø 0.56
0.45
2.54
MSA075 - 1
k
a
e
c

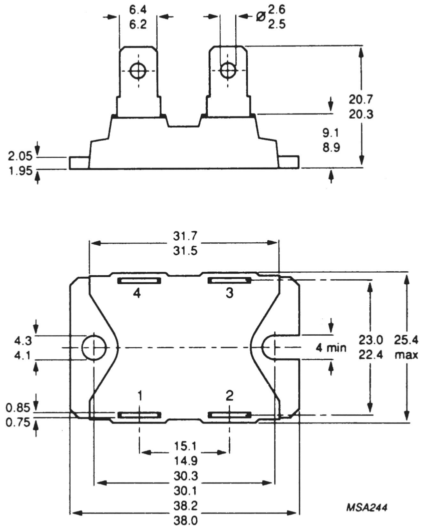
SOT212


seating plane
0.1
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(4x)
11 max
10.16
0.3
0.2
0 to 15°
MSA074 - 1
6
4
1
3
6.35
7.62 max

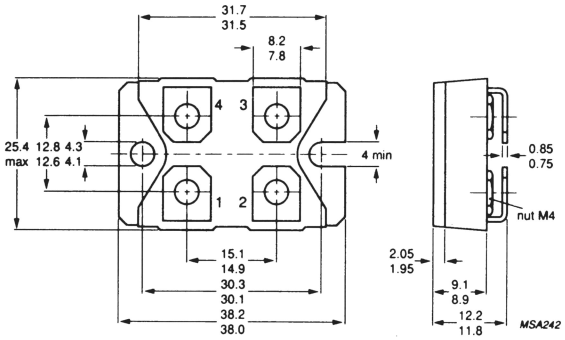
SOT223


1.70
1.45
0.73
0.67
0.32
0.24
0.10
0.02
16°
max
13°
1.80
max
10°
max
6.7
6.3
B
3.1
2.9
4
A
0.2 Ⓜ A
3.7
3.3
7.3
6.7
1
2
3
1.05
0.85
2.3
0.80
0.60
0.1 Ⓜ B
(4x)
4.6
MSA035

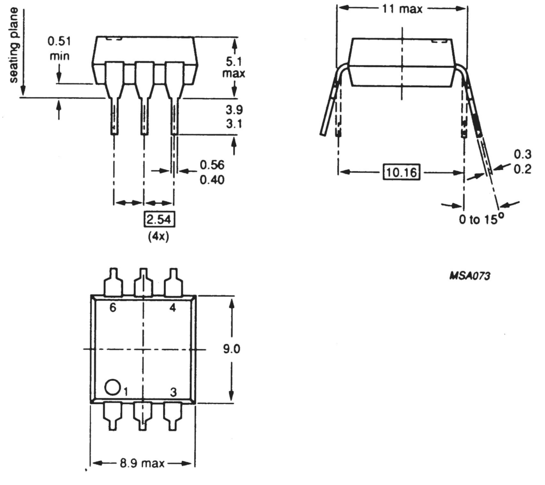
SOT227A


6.4
6.2
Ø 2.6
2.5
20.7
20.3
9.1
8.9
2.05
1.95
31.7
31.5
4
3
4.3
4.1
4 min
23.0
22.4
25.4
max
1
2
0.85
0.75
15.1
14.9
30.3
30.1
38.2
38.0
MSA244

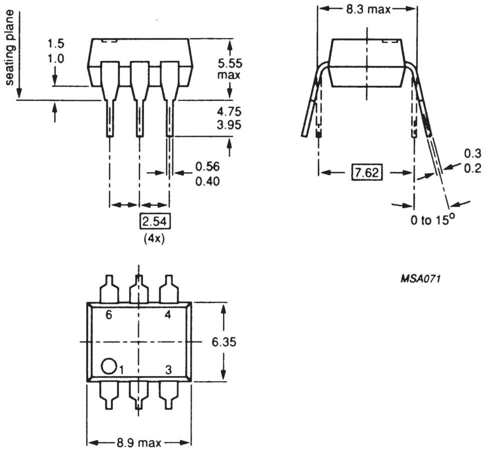
SOT227B


31.7
31.5
8.2
7.8
4
3
1
2
25.4
max
12.8
12.6
4.3
4.1
4 min
0.85
0.75
nut M4
15.1
14.9
30.3
30.1
38.2
38.0
2.05
1.95
9.1
8.9
12.2
11.8
MSA242

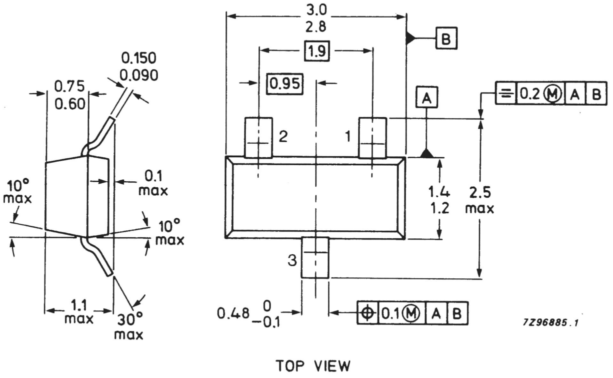
SOT228


seating plane
0.51
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(4x)
11 max
10.16
0.3
0.2
0 to 15°
MSA073
6
4
1
3
9.0
8.9 max

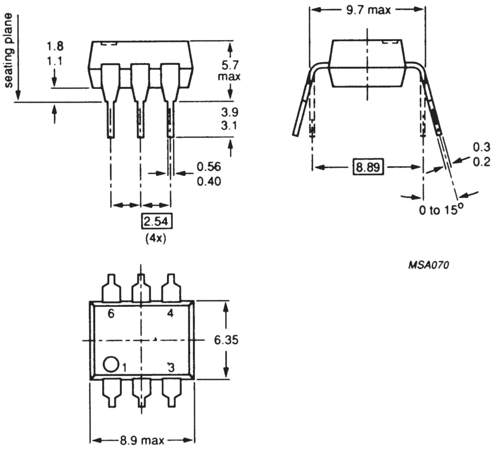
SOT229B


8.3 max
seating plane
1.5
1.0
5.55
max
4.75
3.95
0.56
0.40
2.54
(4x)
7.62
0.3
0.2
0 to 15°
MSA071
6
4
1
3
6.35
8.9 max

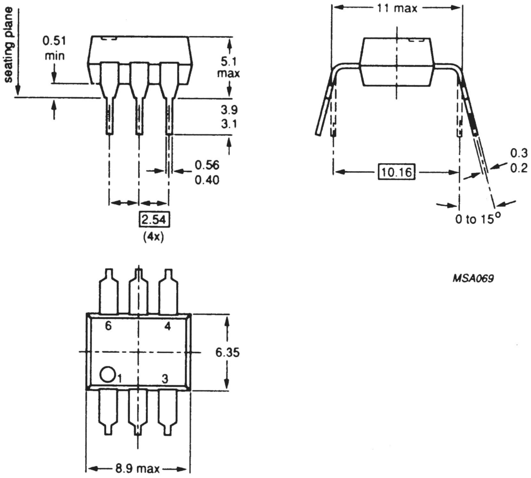
SOT23


3.0
2.8
B
1.9
0.150
0.090
0.95
0.75
0.60
A
0.2 Ⓜ A B
2
1
0.1
max
10°
max
10°
max
1.4
1.2
2.5
max
3
1.1
max
30°
max
0.48 $^{0}_{-0.1}$
⌖ 0.1 Ⓜ A B
7Z96885.1
TOP VIEW

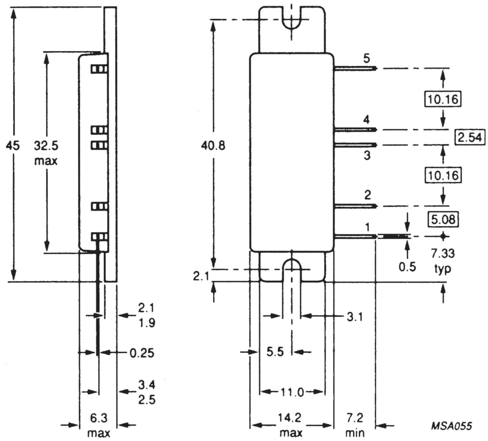
SOT230


9.7 max
seating plane
1.8
1.1
5.7
max
3.9
3.1
0.56
0.40
2.54
(4x)
8.89
0.3
0.2
0 to 15°
MSA070
6
4
1
3
6.35
8.9 max

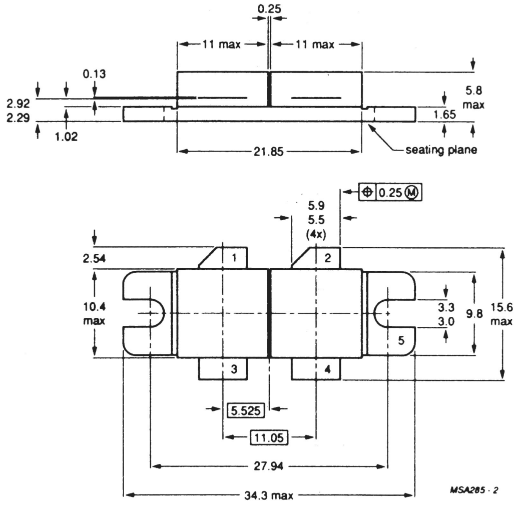
SOT231


seating plane
0.51
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(4x)
11 max
10.16
0.3
0.2
0 to 15°
6
4
1
3
6.35
8.9 max
MSA069

SOT246

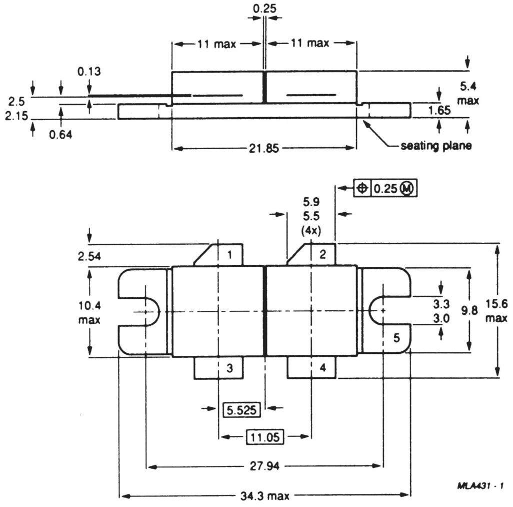

45
32.5
max
2.1
1.9
0.25
3.4
2.5
6.3
max
40.8
5
4
3
2
1
10.16
2.54
10.16
5.08
0.5
7.33
typ
2.1
3.1
5.5
11.0
14.2
max
7.2
min
MSA055

SOT262A

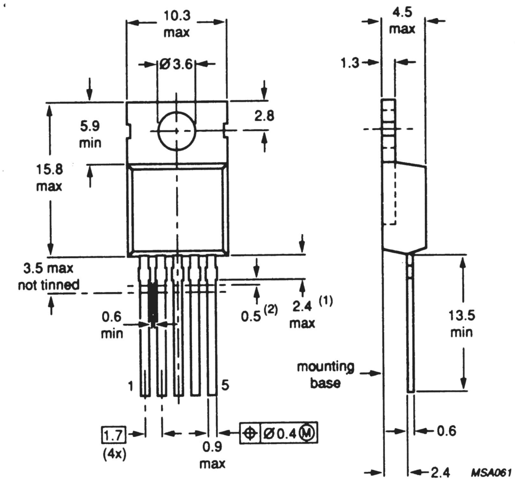

0.25
11 max
11 max
0.13
2.92
2.29
1.02
5.8
max
1.65
21.85
seating plane
0.25 Ⓜ
5.9
5.5
(4x)
2.54
1
2
10.4
max
3.3
3.0
9.8
15.6
max
5
3
4
5.525
11.05
27.94
34.3 max
MSA285 - 2

Package outlines

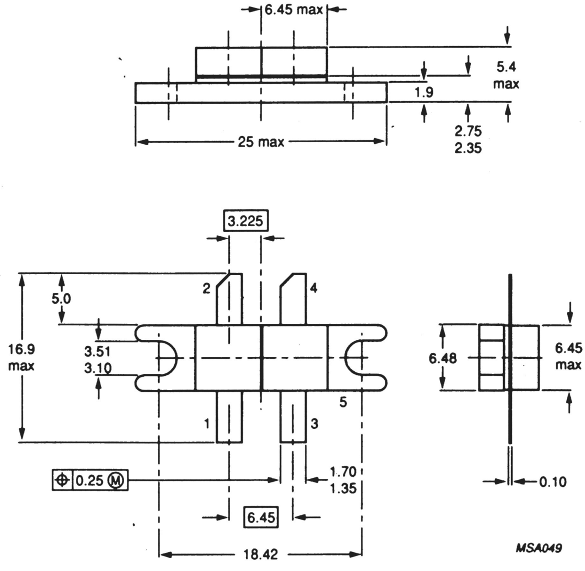
SOT262A2


0.25
11 max
11 max
0.13
2.5
2.15
0.64
5.4
max
1.65
21.85
seating plane
0.25 Ⓜ
5.9
5.5
(4x)
2.54
1
2
10.4
max
3.3
3.0
9.8
15.6
max
5
3
4
5.525
11.05
27.94
34.3 max
MLA431 - 1

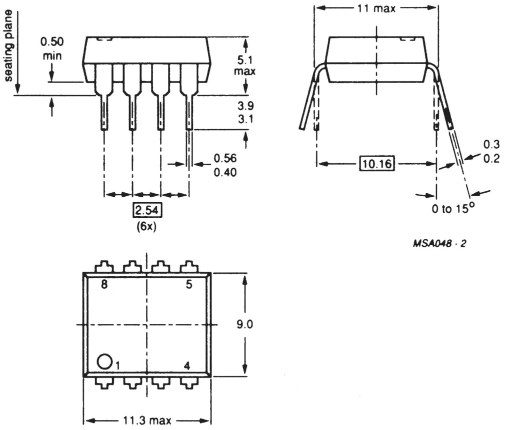
SOT263


10.3
max
Ø3.6
4.5
max
1.3
2.8
5.9
min
15.8
max
3.5 max
not tinned
0.6
min
0.5 (2)
2.4 (1)
max
13.5
min
mounting
base
1
5
1.7
(4x)
0.9
max
Ø0.4 Ⓜ
0.6
2.4
MSA061

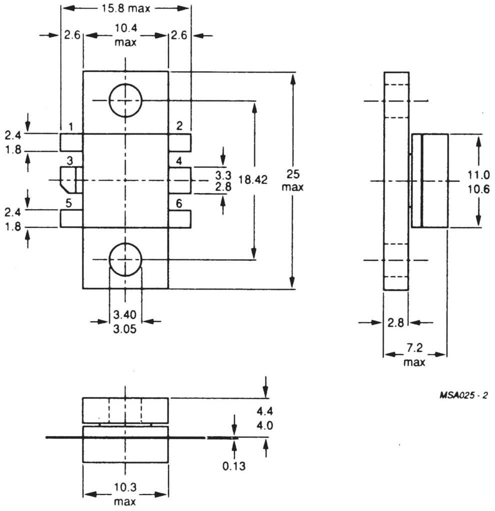
SOT268


6.45 max
5.4
max
1.9
2.75
2.35
25 max
3.225
2
4
5.0
16.9
max
3.51
3.10
6.48
6.45
max
1
3
5
0.25 Ⓜ
1.70
1.35
0.10
6.45
18.42
MSA049

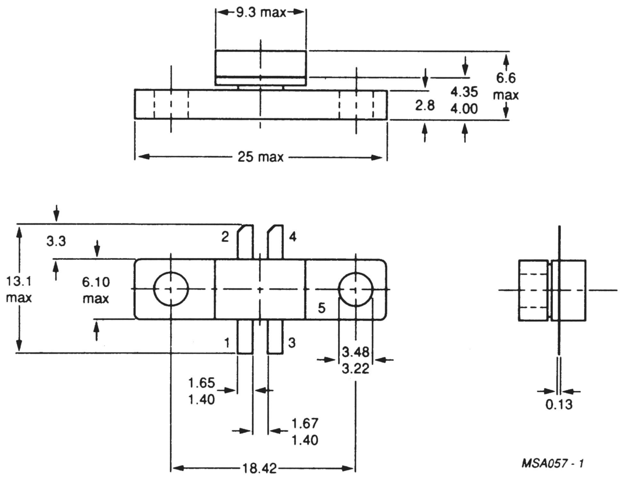
SOT271


seating plane
0.50
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(6x)
11 max
10.16
0.3
0.2
0 to 15°
MSA048 - 2
8
5
1
4
9.0
11.3 max

SOT273

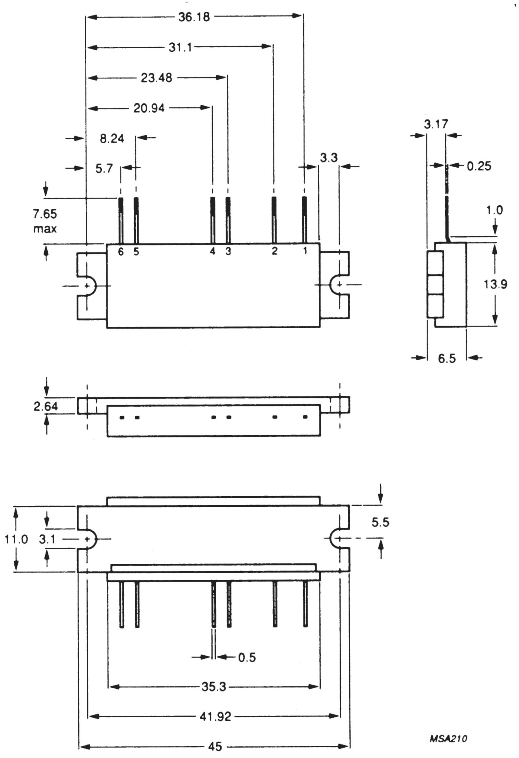

15.8 max
2.6
10.4
max
2.6
2.4
1.8
1
2
3
4
3.3
2.8
18.42
25
max
2.4
1.8
5
6
3.40
3.05
11.0
10.6
2.8
7.2
max
MSA025 - 2
4.4
4.0
0.13
10.3
max

SOT279

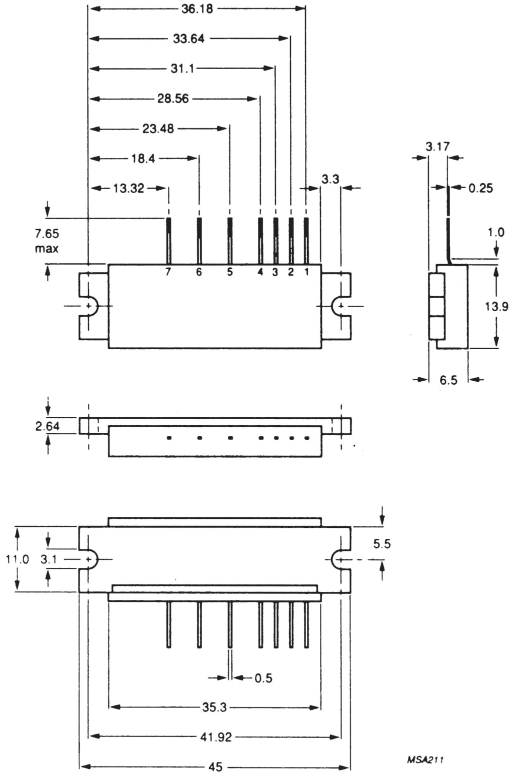

9.3 max
6.6
max
4.35
4.00
2.8
25 max
3.3
2
4
13.1
max
6.10
max
5
1
3
3.48
3.22
1.65
1.40
1.67
1.40
18.42
0.13
MSA057 - 1

Package outlines

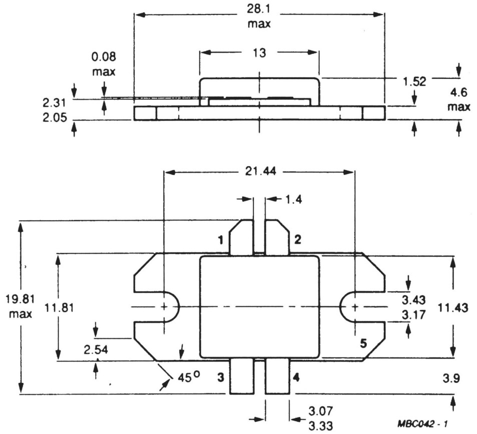
SOT288C


36.18
31.1
23.48
20.94
8.24
5.7
3.3
7.65
max
6 5 4 3 2 1
3.17
0.25
1.0
13.9
6.5
2.64
11.0
3.1
5.5
0.5
35.3
41.92
45
MSA210

SOT288D

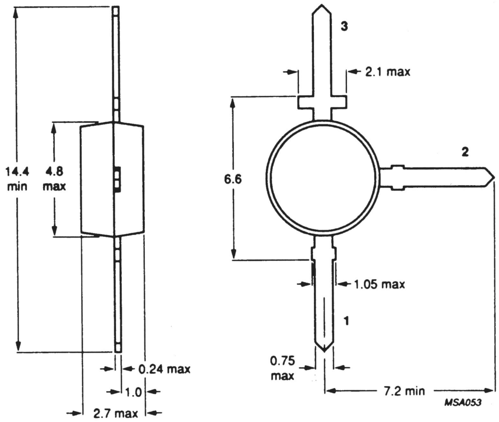

36.18
33.64
31.1
28.56
23.48
18.4
13.32
3.3
7.65
max
7 6 5 4 3 2 1
3.17
0.25
1.0
13.9
6.5
2.64
11.0
3.1
5.5
0.5
35.3
41.92
45
MSA211

SOT289

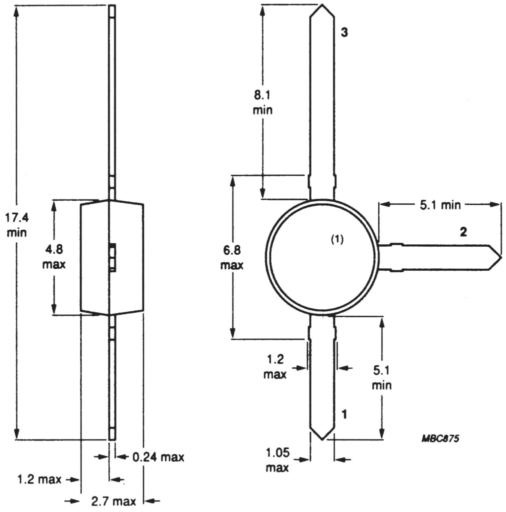

28.1
max
13
0.08
max
1.52
4.6
max
2.31
2.05
21.44
1.4
1
2
19.81
max
11.81
3.43
3.17
11.43
2.54
5
45°
3
4
3.9
3.07
3.33
MBC042 - 1

Package outlines

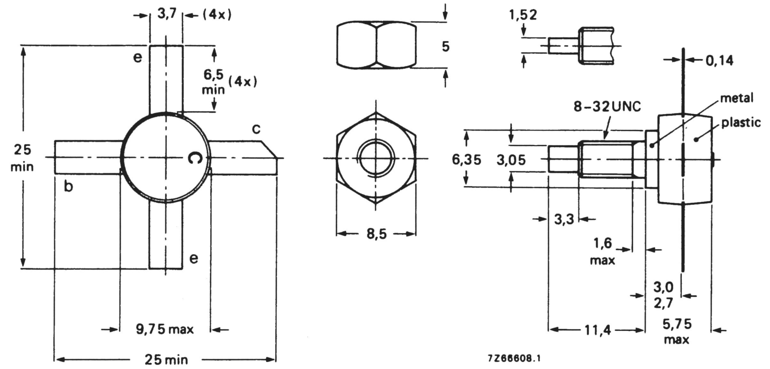
SOT37


3
2.1 max
2
6.6
14.4 min
4.8 max
1.05 max
1
0.75 max
0.24 max
1.0
2.7 max
7.2 min
MSA053

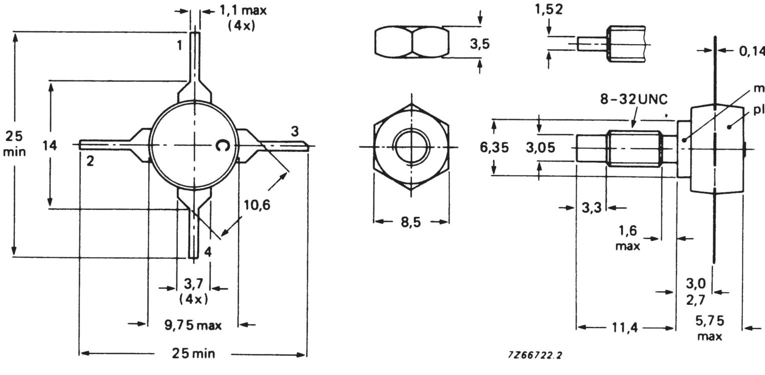
SOT37


3
8.1 min
5.1 min
2
(1)
17.4 min
4.8 max
6.8 max
1.2 max
5.1 min
1
MBC875
1.05 max
0.24 max
1.2 max
2.7 max

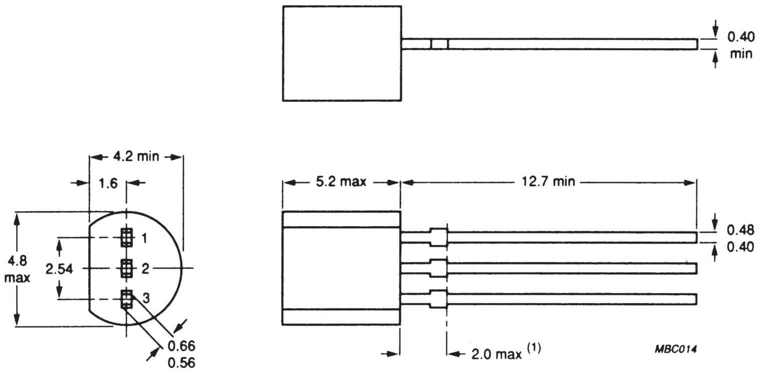
SOT48(2)


3,7
(4x)
e
6,5 min (4x)
c
25 min
b
e
C
9,75 max
25 min
5
8,5
1,52
0,14
8-32UNC
metal
plastic
6,35
3,05
3,3
1,6 max
3,0
2,7
11,4
5,75 max
7Z66608.1

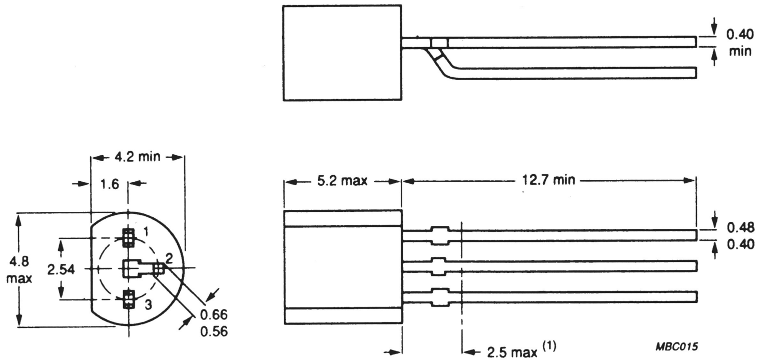
SOT48(3)


1,1 max (4x)
1
25 min
14
2
3
C
10,6
4
3,7 (4x)
9,75 max
25 min
3,5
8,5
1,52
0,14
8-32UNC
metal
plastic
6,35
3,05
3,3
1,6 max
3,0
2,7
11,4
5,75 max
7Z66722.2

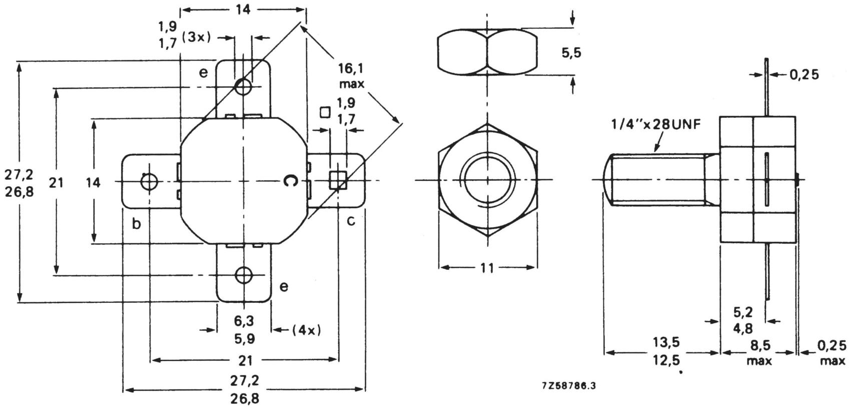
SOT54


0.40
min
4.2 min
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.0 max (1)
MBC014

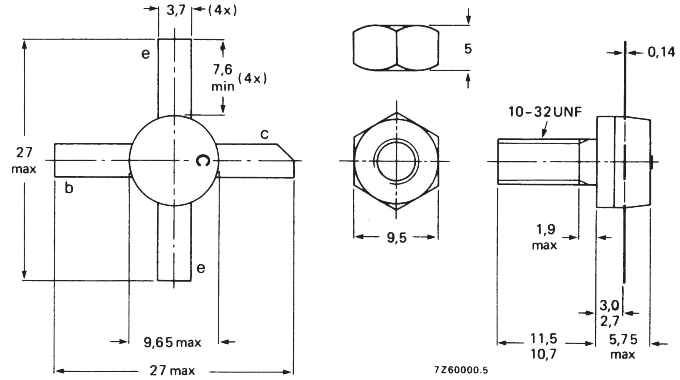
SOT54


0.40
min
4.2 min
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.5 max (1)
MBC015

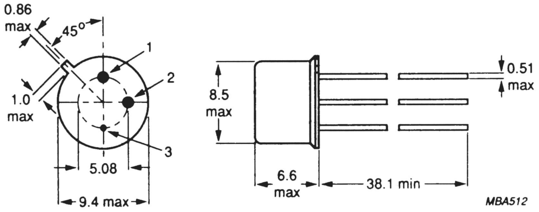
SOT55


14
1,9
1,7 (3x)
16,1
max
e
1,9
1,7
27,2
26,8
21
14
b
c
c
e
6,3
5,9
(4x)
21
27,2
26,8
5,5
11
0,25
1/4"x28UNF
13,5
12,5
5,2
4,8
8,5
max
0,25
max
7Z58786.3

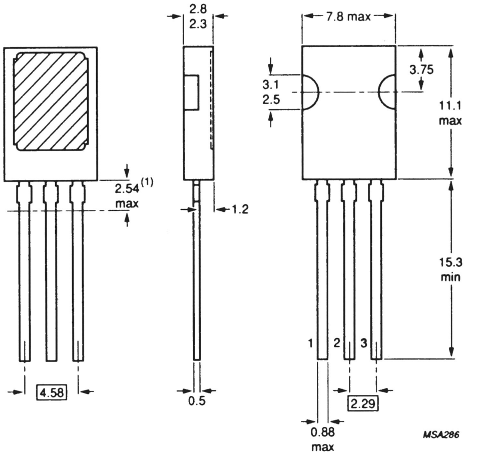
SOT56


3,7
(4x)
e
7,6 min (4x)
c
27 max
C
b
e
9,65 max
27 max
5
9,5
0,14
10-32UNF
1,9 max
3,0
2,7
11,5
10,7
5,75 max
7Z60000.5

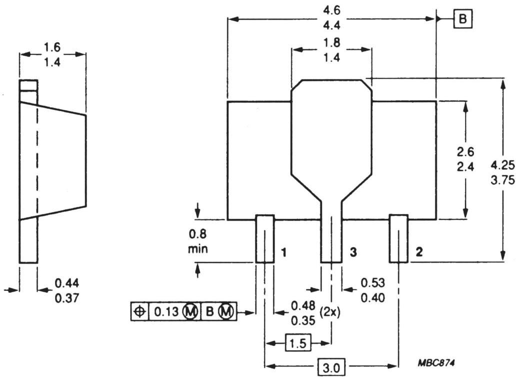
SOT5


0.86 max
45°
1
2
1.0 max
3
5.08
9.4 max
8.5 max
0.51 max
6.6 max
38.1 min
MBA512

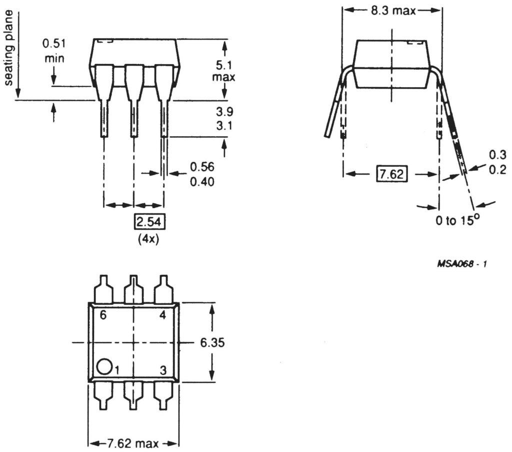
SOT82


2.8
2.3
7.8 max
3.75
3.1
2.5
11.1 max
2.54(1) max
1.2
15.3 min
1
2
3
4.58
0.5
2.29
0.88 max
MSA286

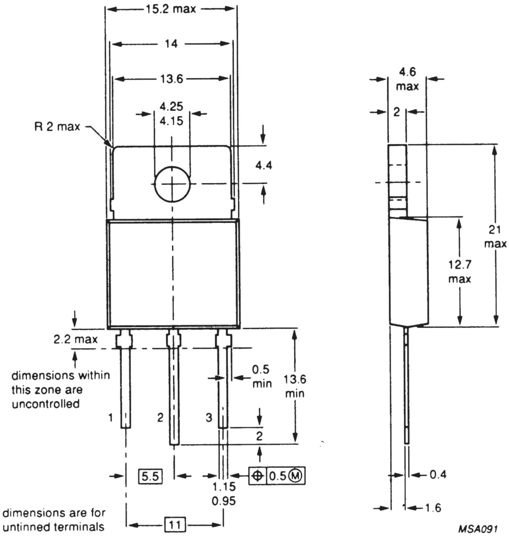
SOT89


1.6
1.4
0.44
0.37
4.6
4.4
B
1.8
1.4
2.6
2.4
4.25
3.75
0.8
min
1
3
2
0.53
0.40
0.48
0.35
(2x)
0.13 M B M
1.5
3.0
MBC874

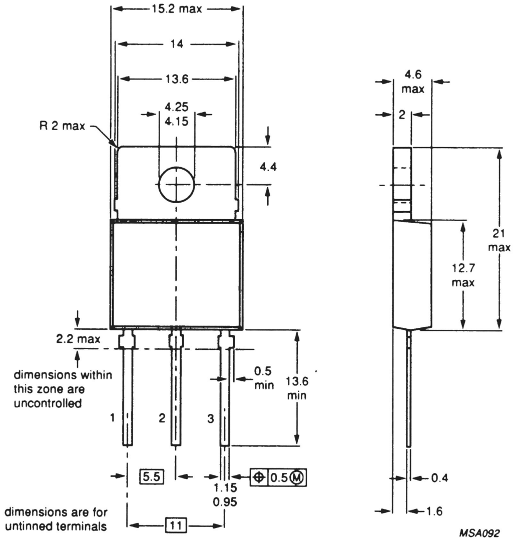
SOT90B


seating plane
0.51
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(4x)
8.3 max
7.62
0.3
0.2
0 to 15°
MSA068 - 1
6
4
1
3
6.35
7.62 max

SOT93A

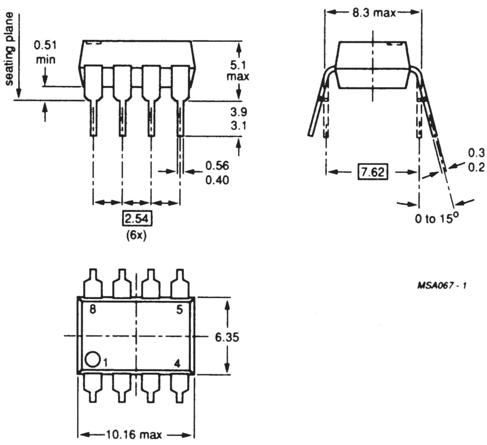

15.2 max
14
13.6
4.25
4.15
R 2 max
4.4
4.6
max
2
21
max
12.7
max
2.2 max
dimensions within this zone are uncontrolled
0.5
min
13.6
min
1
2
3
2
5.5
1.15
0.95
0.5 M
0.4
1.6
dimensions are for untinned terminals
11
MSA091

SOT93B

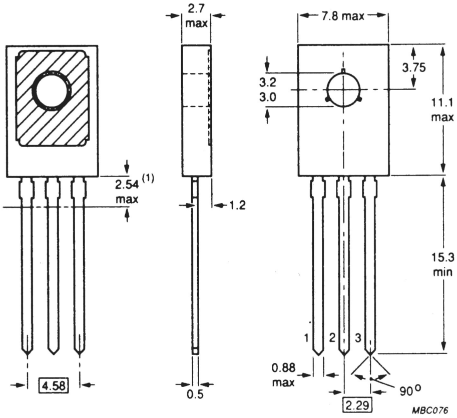

15.2 max
14
13.6
4.25
4.15
R 2 max
4.4
4.6
max
2
21
max
12.7
max
2.2 max
dimensions within this zone are uncontrolled
0.5
min
13.6
min
1
2
3
5.5
1.15
0.95
0.5 M
0.4
1.6
dimensions are for untinned terminals
11
MSA092

Package outlines

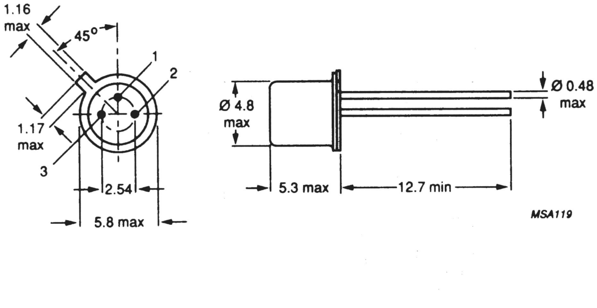
SOT97F


seating plane
0.51
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(6x)
8.3 max
7.62
0.3
0.2
0 to 15°
MSA067 - 1
8
5
1
4
6.35
10.16 max

TO-126

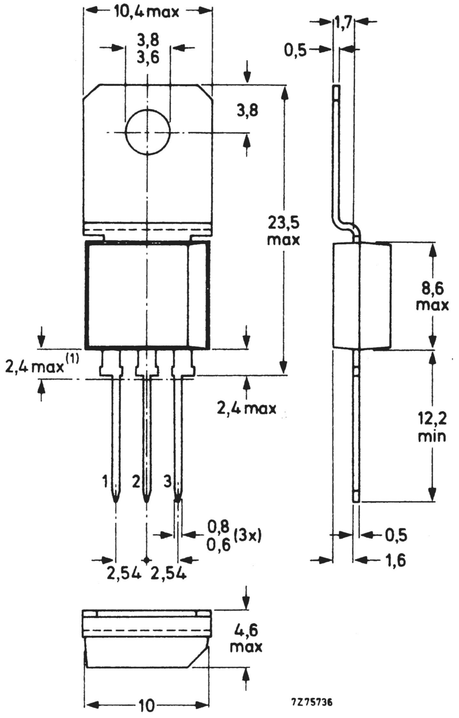

2.7
max
7.8 max
3.2
3.0
3.75
11.1
max
2.54 (1)
max
1.2
15.3
min
1
2
3
0.88
max
90°
4.58
0.5
2.29
MBC076

TO-18

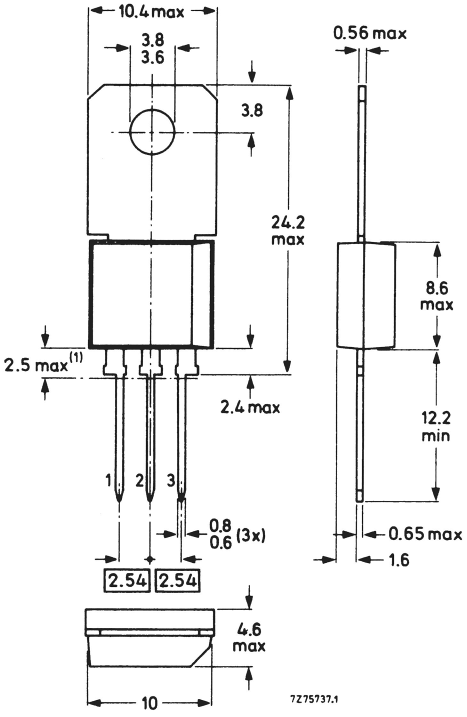

1.16
max
45°
1
2
1.17
max
3
2.54
5.8 max
Ø 4.8
max
5.3 max
12.7 min
Ø 0.48
max
MSA119

Package outlines

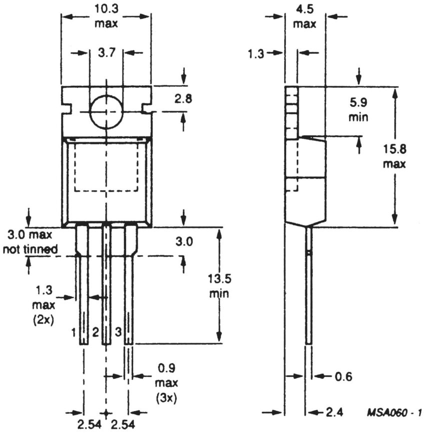
TO-202A


10,4 max
3,8
3,6
1,7
0,5
3,8
23,5
max
8,6
max
2,4 max(1)
2,4 max
12,2
min
1
2
3
0,8
0,6 (3x)
0,5
1,6
2,54 2,54
4,6
max
10
7Z75736

TO-202B

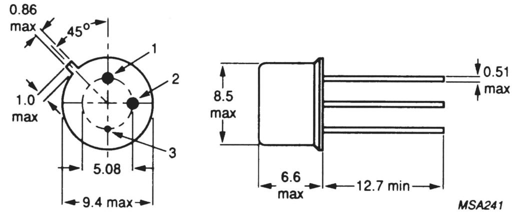

10.4 max
3.8
3.6
0.56 max
3.8
24.2
max
8.6
max
2.5 max(1)
2.4 max
12.2
min
1
2
3
0.8
0.6 (3x)
0.65 max
1.6
2.54
2.54
4.6
max
10
7Z75737.1

TO-220

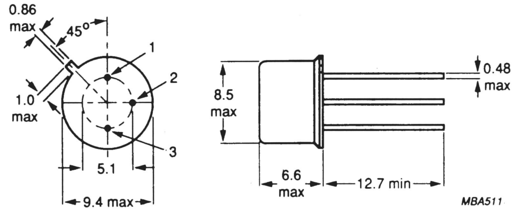

10.3
max
3.7
2.8
4.5
max
1.3
5.9
min
15.8
max
3.0 max
not tinned
3.0
13.5
min
1.3
max
(2x)
1
2
3
0.9
max
(3x)
2.54 2.54
0.6
2.4
MSA060 - 1

Package outlines

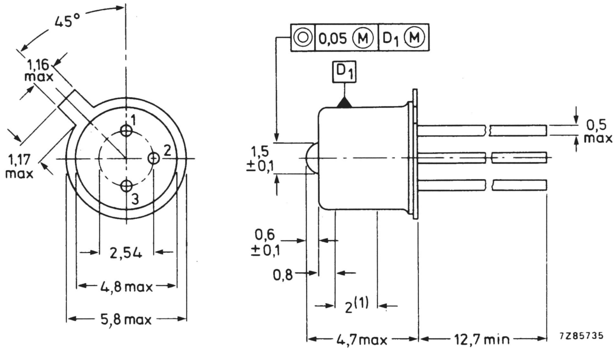
TO-39A


0.86
max
45°
1
2
3
1.0
max
5.08
9.4 max
8.5
max
0.51
max
6.6
max
12.7 min
MSA241

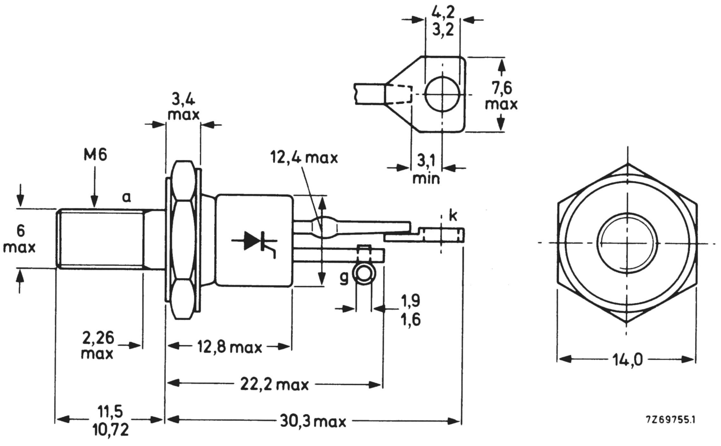
TO-39B


0.86
max
45°
1
2
3
1.0
max
5.1
9.4 max
8.5
max
0.48
max
6.6
max
12.7 min
MBA511

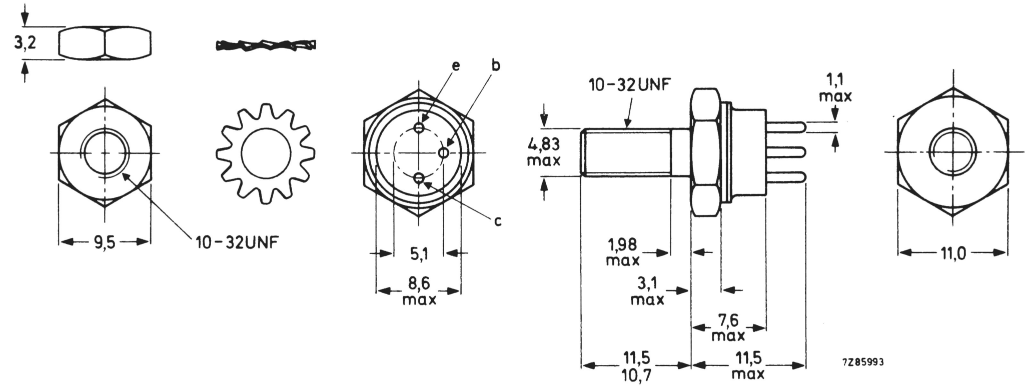
TO-46


45°
1,16
max
1,17
max
1
2
3
2,54
4,8 max
5,8 max
0,05 M D1 M
D1
1,5
±0,1
0,5
max
0,6
±0,1
0,8
2(1)
4,7max
12,7 min
7Z85735

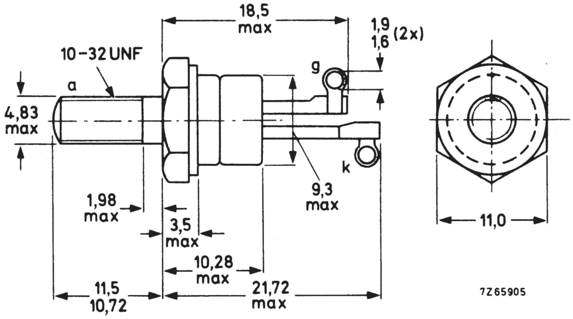
TO-48


4,2
3,2
7,6
max
3,1
min
3,4
max
M6
a
12,4 max
k
6
max
g
1,9
1,6
2,26
max
12,8 max
22,2 max
11,5
10,72
30,3 max
14,0
7Z69755.1

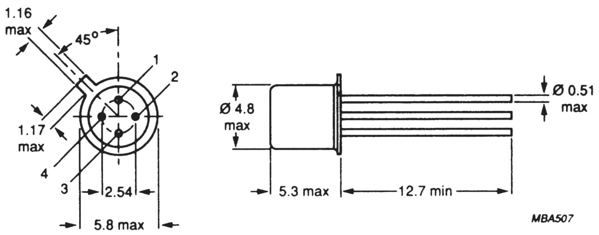
TO-60


3,2
e
b
10-32UNF
1,1
max
4,83
max
9,5
10-32UNF
c
5,1
8,6
max
1,98
max
3,1
max
7,6
max
11,0
11,5
10,7
11,5
max
7Z85993

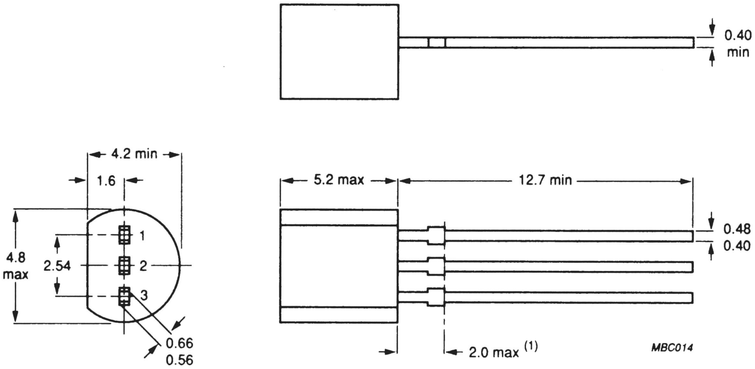
TO-64


18,5
max
1,9
1,6
(2x)
10-32UNF
g
a
4,83
max
k
9,3
max
1,98
max
3,5
max
10,28
max
11,0
11,5
10,72
21,72
max
7Z65905

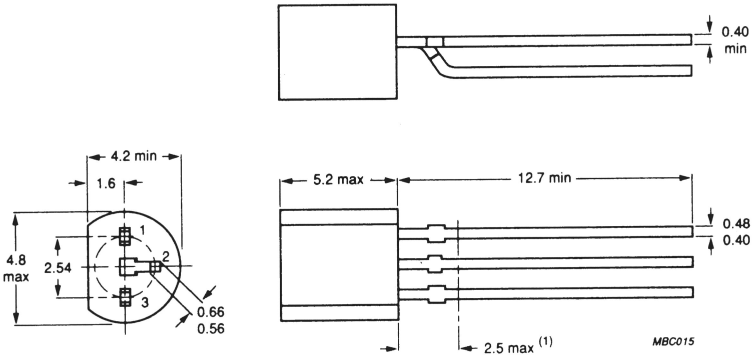
TO-72


1.16
max
45°
1
2
1.17
max
4
3
2.54
5.8 max
Ø 4.8
max
Ø 0.51
max
5.3 max
12.7 min
MBA507

TO-92A


0.40
min
4.2 min
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.0 max (1)
MBC014

TO-92B


0.40
min
4.2 min
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.5 max (1)
MBC015

CLIP MOUNTING

ENVELOPE	DIRECT MOUNTING	INSULATED MOUNTING		
	CLIP	MICA	ALUMINA	CLIP
TO-126 (SOT32)	56353	56354		56353
SOT82	56353	56354		56353
TO-220 (SOT78)	56363	56369	56367	56364
SOT186	56363			
SOT93	56379	56378		56379
SOT199	56379			

SCREW MOUNTING

ENVELOPE	DIRECT MOUNTING		INSULATED MOUNTING			
	METAL WASHER	MOUNTING SIZE	MICA WASHER	INSULATED BUSH	METAL WASHER	MOUNTING SIZE
TO-126 (SOT32)	56326	M3				
up to 300 V			56387a	56387b	56326	M2.5
TO-220 (SOT78)	56360a	M3				
up to 800 V			56359b	56359c	56360a	M3
up to 1000 V			56359b	56359d	56360a	M3
SOT186	56360a	M3				
SOT93		M4	56368a	56368b		M3
SOT199		M4				
DO-5, TO-48			56264a	56264b		
DO-4, TO-64			56295a	56295c		
			PTFE ring 56295b			

OTHERS

ENVELOPE	DESCRIPTION	PART NUMBER
TO-5, TO-39	distance disk of insulating material	56245
TO-18, TO-72	distance disk of insulating material	56246

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BCP54	SC10a	4
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Bipolar small signal

General purpose

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BF370 €	TO-92	NPN	15	100	40	490	500		10	1	3	
BSY95A	TO-18	NPN	15	100	50	200	300	200	10	0.35		0.35
BFR54 €	TO-92	NPN	15	500	40	500	500		10	1		0.25
BF496	TO-92	NPN	20	20		550	300				2	
BFS20 €	SOT23	NPN	20	25	40	275	250		7	10		
BFS18 €	SOT23	NPN	20	30	35	200	250	125	1	10	4	
BF495D €	TO-92	NPN	20	30	35	120	300	76	1	10		
BFS19 €	SOT23	NPN	20	30	65	260	250	225	1	10	4	
BF494 €	TO-92	NPN	20	30	67	120	300	220	1	10	4	
BF495C €	TO-92	NPN	20	30	67	120	300	125	1	10		
JF494 €	TO-92	NPN	20	30	67	120	300	220	1	10		
BF494B €	TO-92	NPN	20	30	100	120	300	220	1	10		
BC179B €	TO-18	NPN	20	100		150	300				1	0.3
BC108 €	TO-18	NPN	20	100	110	300	300	800	2	5	2	0.6
BC108A €	TO-18	NPN	20	100	110	300	300	220	2	5	2	0.6
BCY57 €	TO-18	NPN	20	100	200	100	300	800	2	5	1.5	
BC108B €	TO-18	NPN	20	100	200	300	300	450	2	5	2	0.6
BC109 €	TO-18	NPN	20	100	200	300	300	800	2	5	1.2	0.6
BC109B €	TO-18	NPN	20	100	200	300	300	450	2	5	1.2	0.6
BC108C €	TO-18	NPN	20	100	420	300	300	800	2	5	2	0.6
BC109C €	TO-18	NPN	20	100	420	300	300	800	2	5	1.2	0.6
MPS3706	TO-92	NPN	20	600	30	100	625	600	50	5		1
BCP68-10	SOT223	NPN	20	1000		60	1500	160				0.5
BFY52 €	TO-39	NPN	20	1000	60	50	800		150	10		1
BCP68	SOT223	NPN	20	1000	85	60	1500	375	500	1		0.5
BC368 €	TO-92	NPN	20	1000	85	40	800	375	500	1		0.5
BC868 €	SOT89	NPN	20	1000	85	60	1000	375	500	1		0.5
BCP68-16	SOT223	NPN	20	1000	100	60	1500	250	500	1		0.5
BCP68-25	SOT223	NPN	20	1000	250	60	1500		500	1		0.5
BF199 €	TO-92	NPN	25	25		550	500					
JC500 €	TO-92	NPN	25	100	90	130	500	600	1	5		0.2
JC500O	TO-92	NPN	25	100	90	130	500	180	1	5		0.2
MPS6514 €	TO-92	NPN	25	100	90		625		100	10		0.5
JC500P	TO-92	NPN	25	100	135	130	500	270	1	5		0.2
MPS6515 €	TO-92	NPN	25	100	150		625		100	10		0.5
JC500Q	TO-92	NPN	25	100	200	130	500	400	1	5		0.2
MPS6520 €	TO-92	NPN	25	100	200		625	400	2	10		0.5
JC500R	TO-92	NPN	25	100	300	130	500	600	1	5		0.2
MPS6521 €	TO-92	NPN	25	100	300		625	600	2	10		0.5
2N4124 €	TO-92	NPN	25	200	120	300	350	480	2	10		0.3
BCX20 €	SOT23	NPN	25	500	100	200	250	600	100	1		0.62
BC338 €	TO-92	NPN	25	500	100	200	800	600	100	1		0.7
BC338-16 €	TO-92	NPN	25	500	100	200	800	250	100	1		0.7
BC818 €	SOT23	NPN	25	500	100	200	250	600	100	1		0.7
BC818-16 €	SOT23	NPN	25	500	100	200	250	250	100	1		0.7
JC338	TO-92	NPN	25	500	100	200	800	600	100	1		0.7
JC338-16	TO-92	NPN	25	500	100	200	800	250	100	1		0.7
BC338-25 €	TO-92	NPN	25	500	160	200	800	400	100	1		0.7
BC818-25 €	SOT23	NPN	25	500	160	200	250	400	100	1		0.7
JC338-25	TO-92	NPN	25	500	160	200	800	400	100	1		0.7
BC338-40 €	TO-92	NPN	25	500	250	200	800	600	100	1		0.7

General purpose (cont.)

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BC818-40 €	SOT23	NPN	25	500	250	200	250	600	100	1		0.7
JC338-40	TO-92	NPN	25	500	250	200	800	600	100	1		0.7
BF198 €	TO-92	NPN	30	25		400	500				3	
BF495 €	TO-92	NPN	30	30	35	120	300	125	1	10	4	
PMBT5088 €	SOT23	NPN	30	50	350		250	900	1	5		0.5
2N5088 €	TO-92	NPN	30	50	350	50	625		1	5		0.5
MPS6513 €	TO-92	NPN	30	100	60		625		100	10		0.5
BCV61 €	SOT143	NPN	30	100	110	300	250	800	2	5	2	0.6
BCV61A €	SOT143	NPN	30	100	110	300	250	220	2	5	2	0.25
BCV63 €	SOT143	NPN	30	100	110	200	250	800	2	5		0.65
BC548 €	TO-92	NPN	30	100	110	300	500	800	2	5	2	0.6
BC548A €	TO-92	NPN	30	100	110	300	500	220	2	5	2	0.6
BC848 €	SOT23	NPN	30	100	110	300	250	800	2	5	2	0.25
BC848A €	SOT23	NPN	30	100	110	300	250	220	0.01	5	2	0.25
JC548 €	TO-92	NPN	30	100	110	300	500	800	2	5	2	0.6
JC548A	TO-92	NPN	30	100	110	300	500	220	2	5	2	0.6
BCV61B €	SOT143	NPN	30	100	200	300	250	450	2	5	2	0.25
BCV63B €	SOT143	NPN	30	100	200	200	250	450	2	5		0.3
BC548B €	TO-92	NPN	30	100	200	300	500	450	2	5	2	0.6
BC549 €	TO-92	NPN	30	100	200	300	500	800	2	5	1.2	0.6
BC549B €	TO-92	NPN	30	100	200	300	500	450	2	5	1.2	0.6
BC848B €	SOT23	NPN	30	100	200	300	250	450	0.01	5	2	0.25
BC849 €	SOT23	NPN	30	100	200	300	250	800	2	5	1.2	0.25
BC849B €	SOT23	NPN	30	100	200	300	250	450	0.01	5	1.2	0.25
JC548B €	TO-92	NPN	30	100	200	300	500	450	2	5	2	0.6
JC549 €	TO-92	NPN	30	100	200	300	500	800	2	5	1.2	0.25
JC549B €	TO-92	NPN	30	100	200	300	500	450	2	5	1.2	0.25
BCV61C €	SOT143	NPN	30	100	420	300	250	800	2	5	2	0.25
BC548C €	TO-92	NPN	30	100	420	300	500	800	2	5	2	0.6
BC549C €	TO-92	NPN	30	100	420	300	500	800	2	5	1	0.6
BC848C €	SOT23	NPN	30	100	420	300	250	800	0.01	5	2	0.25
BC849C €	SOT23	NPN	30	100	420	300	250	800	0.01	5	1.2	0.25
JC548C	TO-92	NPN	30	100	420	300	500	800	2	5	2	0.6
JC549C	TO-92	NPN	30	100	420	300	500	800	2	5	1.2	0.25
2N4123 €	TO-92	NPN	30	200	50	250	350	200	2	10		0.3
MPS6532	TO-92	NPN	30	600	30		625		100	1		0.5
MPS3705 €	TO-92	NPN	30	600	50	100	625	150	50	5		0.8
MPS3704 €	TO-92	NPN	30	600	100	100	625	300	50	5		0.6
PZT2222	SOT223	NPN	30	600	100	250	1500	300	150	10		0.4
BFY51 €	TO-39	NPN	30	1000	40	50	800		150	10		1
BC375 €	TO-92	NPN	30	1000	100	150	800	400	150	1		0.4
BCW31 €	SOT23	NPN	32	100	110	300	250	220	2	5		0.25
BCX58/VII €	TO-92	NPN	32	100	120	125	450	220	2	5	2	0.5
BCX58/VIII €	TO-92	NPN	32	100	180	125	450	310	2	5	2	0.5
BCF32 €	SOT23	NPN	32	100	200	300	350	450	2	5	1.2	0.25
BCW32 €	SOT23	NPN	32	100	200	300	250	450	2	5		0.25
BCX58/IX €	TO-92	NPN	32	100	250	125	450	460	2	5	2	0.5
BCX58/X	TO-92	NPN	32	100	380	125	450	630	2	5	2	0.5
BCF33 €	SOT23	NPN	32	100	420	300	350	800	2	5	1.2	0.25
BCW33 €	SOT23	NPN	32	100	420	300	250	800	2	5		0.25
BFY50 €	TO-39	NPN	35	1000	30	60	800		150	10		0.7

Bipolar small signal

General purpose (cont.)

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BFY55	TO-39	NPN	35	1000	40	60	800	120	150	10		1
2N2297	TO-39	NPN	35	1000	40	60	800	120	150	10		1
BF241 €	TO-92	NPN	40	25	35	150	300	125	1	10		
BF240 €	TO-92	NPN	40	25	67	150	300	220	1	10		
BCY87	TO-71	NPN	40	30	100	10	150	450	0.05	10		
BCY88	TO-71	NPN	40	30	100	10	150	450	0.05	10		
BCY89	TO-71	NPN	40	30	100	10	150	450	0.05	10		
PMBS3904 €	SOT23	NPN	40	200	100	300	300	300	10	1		0.2
MPS6531 €	TO-92	NPN	40	600	90		625	270	100	1		0.3
2N3053	TO-39	NPN	40	700	50	100	5000	250	150	10		1.4
2N930	TO-18	NPN	45	30	150	50	300	600	10	5	2	1
JC501 €	TO-92	NPN	45	100	90	130	500	600	1	5		0.2
JC501O	TO-92	NPN	45	100	90	130	500	180	1	5		0.2
BCY56 €	TO-18	NPN	45	100	100	85	300	450	2	5	1.5	
BCW71 €	SOT23	NPN	45	100	110	300	250	220	2	5		0.25
BC107 €	TO-18	NPN	45	100	110	300	300	450	2	5	2	0.6
BC107A €	TO-18	NPN	45	100	110	300	300	220	2	5	2	0.6
BC547 €	TO-92	NPN	45	100	110	300	500	800	2	5	2	0.6
BC547A €	TO-92	NPN	45	100	110	300	500	220	2	5	2	0.6
BC847 €	SOT23	NPN	45	100	110	300	250	800	2	5	2	0.25
BC847A €	SOT23	NPN	45	100	110	300	250	220	0.01	5	2	0.25
JC547 €	TO-92	NPN	45	100	110	300	500	800	2	5	2	0.6
JC547A €	TO-92	NPN	45	100	110	300	500	220	2	5	2	0.6
BCX59/VII €	TO-92	NPN	45	100	120	125	450	220	2	5	2	0.5
JC501P	TO-92	NPN	45	100	135	130	500	270	1	5		0.2
BCX59/VIII €	TO-92	NPN	45	100	180	125	450	310	2	5	2	0.5
BC107B €	TO-18	NPN	45	100	200	300	300	450	2	5	2	0.6
BC547B €	TO-92	NPN	45	100	200	300	500	450	2	5	2	0.6
BC550 €	TO-92	NPN	45	100	200	300	500	800	2	5	1	0.6
BC550B €	TO-92	NPN	45	100	200	300	500	450	2	5	1.2	0.6
BC847B €	SOT23	NPN	45	100	200	300	250	450	0.01	5	2	0.25
BC850 €	SOT23	NPN	45	100	200	300	250	800	2	5	1.2	0.25
BC850B €	SOT23	NPN	45	100	200	300	250	450	0.01	5	1.2	0.25
JC501Q €	TO-92	NPN	45	100	200	130	500	400	1	5		0.2
JC547B €	TO-92	NPN	45	100	200	300	500	450	2	5	2	0.6
JC550 €	TO-92	NPN	45	100	200	300	500	800	2	5	1	0.25
JC550B	TO-92	NPN	45	100	200	300	500	450	2	5	1	0.25
BCW72 €	SOT23	NPN	45	100	220	300	250	450	2	5		0.25
BCX59/IX €	TO-92	NPN	45	100	250	125	450	460	2	5	2	0.5
JC501R €	TO-92	NPN	45	100	300	130	500	600	1	5		0.2
BCX59/X €	TO-92	NPN	45	100	380	125	450	630	2	5	2	0.5
BCF81 €	SOT23	NPN	45	100	420	300	350	800	2	5	1.2	0.25
BCW81 €	SOT23	NPN	45	100	420	300	250	800	2	5		0.25
BC547C €	TO-92	NPN	45	100	420	300	500	800	2	5	2	0.6
BC550C €	TO-92	NPN	45	100	420	300	500	800	2	5	1	0.6
BC847C €	SOT23	NPN	45	100	420	300	250	800	0.01	5	2	0.25
BC850C €	SOT23	NPN	45	100	420	300	250	800	0.01	5	1.2	0.25
JC547C	TO-92	NPN	45	100	420	300	500	800	2	5	2	0.6
JC550C	TO-92	NPN	45	100	420	300	500	800	2	5	1	0.25
PMBT6429 €	SOT23	NPN	45	200	500	100	250	1250	0.1	5		0.2
BCX19 €	SOT23	NPN	45	500	100	200	250	600	100	1		0.62

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BC337 €	TO-92	NPN	45	500	100	200	800	600	100	1		0.7
BC337-16 €	TO-92	NPN	45	500	100	200	800	250	100	1		0.7
BC817 €	SOT23	NPN	45	500	100	200	250	600	100	1		0.7
BC817-16 €	SOT23	NPN	45	500	100	200	250	250	100	1		0.7
JC337 €	TO-92	NPN	45	500	100	200	800	600	100	1		0.7
JC337-16 €	TO-92	NPN	45	500	100	200	800	250	100	1		0.7
BC337-25 €	TO-92	NPN	45	500	160	200	800	400	100	1		0.7
BC817-25 €	SOT23	NPN	45	500	160	200	250	400	100	1		0.7
JC337-25 €	TO-92	NPN	45	500	160	200	800	400	100	1		0.7
BC337-40 €	TO-92	NPN	45	500	250	200	800	600	100	1		0.7
BC817-40 €	SOT23	NPN	45	500	250	200	250	600	100	1		0.7
JC337-40	TO-92	NPN	45	500	250	200	800	600	100	1		0.7
BCP54	SOT223	NPN	45	1000	40	130	1500	250	150	2		0.5
BCX54 €	SOT89	NPN	45	1000	40	130	1000	250	150	2		0.5
BC635 €	TO-92	NPN	45	1000	40	130	1000	250	150	2		0.5
BCP54-10	SOT223	NPN	45	1000	63	130	1500	160	150	2		0.5
BCX54-10 €	SOT89	NPN	45	1000	63	130	1000	160	150	2		0.5
BC635-10 €	TO-92	NPN	45	1000	63	130	1000	160	150	2		0.5
BCP54-16	SOT223	NPN	45	1000	100	130	1500	250	150	2		0.5
BCX54-16 €	SOT89	NPN	45	1000	100	130	1000	250	150	2		0.5
BC635-16 €	TO-92	NPN	45	1000	100	130	1000	250	150	2		0.5
2PC945 €	TO-92	NPN	50	100	90	150	500	600	1	6		0.3
2PC945R €	TO-92	NPN	50	100	90	150	500	180	1	6		0.3
2PC945Q €	TO-92	NPN	50	100	135	150	500	270	1	6		0.3
2PC945P €	TO-92	NPN	50	100	200	150	500	400	1	6		0.3
2PC945K €	TO-92	NPN	50	100	300	150	500	600	1	6		0.3
2PC1815 €	TO-92	NPN	50	150	120	80	500	700	2	6	1	0.3
2PC1815L	TO-92	NPN	50	150	120	80	500	700	2	6	0.2	0.3
2PC1815Y €	TO-92	NPN	50	150	120	80	500	240	2	6	1	0.3
2PC1815GR €	TO-92	NPN	50	150	200	80	500	400	2	6	1	0.3
2PC1815BL €	TO-92	NPN	50	150	350	80	500	700	2	6	1	0.3
PMBT6428 €	SOT23	NPN	50	200	250	100	250	600	0.1	5		0.2
2N1711 €	TO-39	NPN	50	1000	100	70	800	300	150	10		1.5
2N2483	TO-18	NPN	60	50	40	60	360	120	0.01	5		0.35
2N2484	TO-18	NPN	60	50	100	60	360	500	0.01	5		0.35
BCV71 €	SOT23	NPN	60	100	110	300	250	220	2	5		0.25
BCV72 €	SOT23	NPN	60	100	200	300	250	450	2	5		0.25
MPSA05 €	TO-92	NPN	60	500	50	100	625		10	1		0.25
PMBTA05 €	SOT23	NPN	60	500	50	100	250		10	1		0.25
PZTA05	SOT223	NPN	60	500	50	100	1500		100	1		0.25
BC337A €	TO-92	NPN	60	500	100	200	800	400	100	1		0.7
JC337A	TO-92	NPN	60	500	100	200	800	400	100	1		0.7
BSX49	TO-18	NPN	60	600	25	250	1000		100	1		1
BFX84	TO-39	NPN	60	1000	30	50	800		150	10		0.2
BCP55	SOT223	NPN	60	1000	40	130	1500	250	150	2		0.5
BCX55 €	SOT89	NPN	60	1000	40	130	1000	250	150	2		0.5
BC637 €	TO-92	NPN	60	1000	40	130	1000	250	150	2		0.5
BCP55-10	SOT223	NPN	60	1000	63	130	1500	160	150	2		0.5
BCX55-10 €	SOT89	NPN	60	1000	63	130	1000	160	150	2		0.5
BC637-10 €	TO-92	NPN	60	1000	63	130	1000	160	150	2		0.5
BFX85	TO-39	NPN	60	1000	70	50	800		150	10		0.2

Bipolar small signal

General purpose (cont.)

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BCP55-16	SOT223	NPN	60	1000	100	130	1500	250	150	2		0.5
BCX55-16 €	SOT89	NPN	60	1000	100	130	1000	250	150	2		0.5
BC637-16 €	TO-92	NPN	60	1000	100	130	1000	250	150	2		0.5
BC546 €	TO-92	NPN	65	100	110	300	500	450	2	5	2	0.6
BC546A €	TO-92	NPN	65	100	110	300	500	220	2	5	2	0.6
BC846 €	SOT23	NPN	65	100	110	300	250	450	2	5	2	0.25
BC846A €	SOT23	NPN	65	100	110	300	250	220	0.01	5	2	0.25
JC546 €	TO-92	NPN	65	100	110	300	500	450	2	5	2	0.6
JC546A	TO-92	NPN	65	100	110	300	500	220	2	5	2	0.6
BC546B €	TO-92	NPN	65	100	200	300	500	450	2	5	2	0.6
BC846B €	SOT23	NPN	65	100	200	300	250	450	0.01	5	2	0.25
JC546B €	TO-92	NPN	65	100	200	300	500	450	2	5	2	0.6
2N1893 €	TO-39	NPN	80	500	40		800	120	150	10		5
MPSA06 €	TO-92	NPN	80	500	50	100	625		10	1		0.25
PMBTA06 €	SOT23	NPN	80	500	50	100	250		10	1		0.25
PZTA06	SOT223	NPN	80	500	50	100	1500		100	1		0.25
BCP56	SOT223	NPN	80	1000	40	130	1500	250	150	2		0.5
BCX56 €	SOT89	NPN	80	1000	40	130	1000	250	150	2		0.5
BC639 €	TO-92	NPN	80	1000	40	130	1000	250	150	2		0.5
2N3020 €	TO-39	NPN	80	1000	40	80	800	120	150	10		0.2
BCP56-10	SOT223	NPN	80	1000	63	130	1500	160	150	2		0.5
BCX56-10 €	SOT89	NPN	80	1000	63	130	1000	160	150	2		0.5
BC639-10 €	TO-92	NPN	80	1000	63	130	1000	160	150	2		0.5
BCP56-16	SOT223	NPN	80	1000	100	130	1500	250	150	2		0.5
BCX56-16 €	SOT89	NPN	80	1000	100	130	1000	250	150	2		0.5
BC639-16 €	TO-92	NPN	80	1000	100	130	1000	250	150	2		0.5
2N3019 €	TO-39	NPN	80	1000	100	100	800	300	150	10		0.2
BSW66A €	TO-39	NPN	100	1000	30	130	800		500	5		0.4
BSW67A €	TO-39	NPN	120	1000	30	130	800		500	5		0.4
BCX22	TO-18	NPN	125	800	63	100	450		100	1		0.9
BSR19 €	SOT23	NPN	140	600	60	100	250	250	10	5		0.25
PMBT5550 €	SOT23	NPN	140	600	60	100	250	250	10	5		0.25
2N5550 €	TO-92	NPN	140	600	60	100	500	250	10	5		0.25
BSW68A €	TO-39	NPN	150	1000	30	130	800		500	5		0.4
BSR19A €	SOT23	NPN	160	600	80	100	250	250	10	5		0.2
PMBT5551 €	SOT23	NPN	160	600	80	100	250	250	10	5		0.2
2N5551 €	TO-92	NPN	160	600	80	100	500	250	10	5		0.2
MPSA43 €	TO-92	NPN	200	500	40	50	625		30	10		0.5
PMBTA43 €	SOT23	NPN	200	500	40	50	250		10	10		0.5
PXTA43 €	SOT89	NPN	200	500	40	50	1000		10	10		0.5
PZTA43	SOT223	NPN	200	500	40	50	1500		10	10		0.5
BF422 €	TO-92	NPN	250	50	50	60	830		25	20		0.6
BF483 €	TO-92	NPN	250	50	50	70	830		25	20		
BF622 €	SOT89	NPN	250	50	50	60	1000		25	20		0.6
BF722	SOT223	NPN	250	50	50	60	1500		25	20		0.6
BF822 €	SOT23	NPN	250	50	50	60	250		25	20		0.6
BSP20	SOT223	NPN	250	1000	40	70	1500	40	20	10		0.5
BST40 €	SOT89	NPN	250	1000	40	70	1000		20	10		0.5
PN3440 €	TO-92	NPN	250	1000	40	70	625		20	10		0.5
2N3440	TO-39	NPN	250	1000	40	70	1000		20	10		0.5

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BF420 €	TO-92	NPN	300	50	50	60	830		25	20		0.6
BF485 €	TO-92	NPN	300	50	50	70	830		25	20		
BF620 €	SOT89	NPN	300	50	50	60	1000		25	20		0.6
BF720	SOT223	NPN	300	50	50	60	1500		25	20		0.6
BF820 €	SOT23	NPN	300	50	50	60	250		25	20		0.6
MPSA42 €	TO-92	NPN	300	500	40	50	625		30	10		0.5
PMBTA42 €	SOT23	NPN	300	500	40	50	250		10	10		0.5
PXTA42 €	SOT89	NPN	300	500	40	50	1000		10	10		0.5
PZTA42	SOT223	NPN	300	500	40	50	1500		10	10		0.5
BF487 €	TO-92	NPN	350	50	50	70	830		25	20		
PN3439 €	TO-92	NPN	350	1000	30	70	625		2	10		0.5
2N3439	TO-39	NPN	350	1000	30	70	1000		2	10		0.5
BSP19	SOT223	NPN	350	1000	40	70	1500	40	20	10		0.5
BST39 €	SOT89	NPN	350	1000	40	70	1000		20	10		0.5
BCV65 €	SOT143	P-N	30	100	75		250	800	2	5		0.3
BCV65B	SOT143	P-N	30	100	200		250	475	2	5		0.3
BF570 €	SOT23	PNP	15	100	40	490	250		10	1		
BF926 €	TO-92	PNP	20	25		350	250				5	
BC179 €	TO-18	PNP	20	100		150	300				1	0.3
BC179A €	TO-18	PNP	20	100		150	300				2	0.3
BCP69-10	SOT223	PNP	20	1000		60	1500	160				0.5
BCP69	SOT223	PNP	20	1000	85	60	1500	375	500	1		0.5
BC369 €	TO-92	PNP	20	1000	85	40	800	375	500	1		0.5
BC869 €	SOT89	PNP	20	1000	85	60	1000	375	500	1		0.5
BCP69-16	SOT223	PNP	20	1000	100	60	1500	250	500	1		0.5
BCP69-25	SOT223	PNP	20	1000	250	60	1500		500	1		0.5
BC178 €	TO-18	PNP	25	100		150	300				2	0.3
BC178A €	TO-18	PNP	25	100		150	300				2	0.3
BC178B €	TO-18	PNP	25	100		150	300				1	0.3
JA100 €	TO-92	PNP	25	100	90	130	500	600	1	5		0.3
JA100O	TO-92	PNP	25	100	90	130	500	180	1	5		0.3
JA100P	TO-92	PNP	25	100	135	130	500	270	1	5		0.3
MPS6519 €	TO-92	PNP	25	100	150		625		100	10		0.5
JA100Q	TO-92	PNP	25	100	200	130	500	400	1	5		0.3
MPS6522 €	TO-92	PNP	25	100	200		625	400	2	10		0.5
JA100R	TO-92	PNP	25	100	300	130	500	600	1	5		0.3
MPS6523 €	TO-92	PNP	25	100	400		625	600	2	10		0.5
2N4126 €	TO-92	PNP	25	200	120	250	350	480	2	10		0.4
BCX18 €	SOT23	PNP	25	500	100	100	250	600	100	1		0.62
BC328 €	TO-92	PNP	25	500	100	100	800	600	100	1		0.7
BC328-16 €	TO-92	PNP	25	500	100	100	800	250	100	1		0.7
BC808 €	SOT23	PNP	25	500	100	100	250	600	100	1		0.7
BC808-16 €	SOT23	PNP	25	500	100	100	250	250	100	1		0.7
JC328 €	TO-92	PNP	25	500	100	100	800	600	100	1		0.7
JC328-16	TO-92	PNP	25	500	100	100	800	250	100	1		0.7
BC328-25 €	TO-92	PNP	25	500	160	100	800	400	100	1		0.7
BC808-25 €	SOT23	PNP	25	500	160	100	250	400	100	1		0.7
JC328-25	TO-92	PNP	25	500	160	100	800	400	100	1		0.7
BC328-40 €	TO-92	PNP	25	500	250	100	800	600	100	1		0.7
BC808-40 €	SOT23	PNP	25	500	250	100	250	600	100	1		0.7
JC328-40 €	TO-92	PNP	25	500	250	100	800	600	100	1		0.7

Bipolar small signal

General purpose (cont.)

typenumber		outline	polarity	V_{CE} V	$I_{C\text{-}max}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
MPS3702	€	TO-92	PNP	25	600	60	100	625	300	50	5		0.25
BF324	€	TO-92	PNP	30	25		450	250				3	
BF824	€	SOT23	PNP	30	25		450	250				3	
BF660	€	SOT23	PNP	30	25	30	650	250		3	10		
BC558	€	TO-92	PNP	30	100	75	200	500	800	2	5	2	0.65
BC858	€	SOT23	PNP	30	100	75	150	250	800	2	5	2	0.3
JC558	€	TO-92	PNP	30	100	75	200	500	800	2	5	2	0.3
BCV62	€	SOT143	PNP	30	100	100	150	250	800	2	5	2	0.65
BCV64	€	SOT143	PNP	30	100	110	200	250	800	2	5		0.3
BCV62A	€	SOT143	PNP	30	100	125	150	250	250	2	5	2	0.3
BC558A	€	TO-92	PNP	30	100	125	200	500	250	2	5	2	0.65
BC559	€	TO-92	PNP	30	100	125	200	500	800	2	5	1	0.65
BC559A	€	TO-92	PNP	30	100	125	200	500	250	2	5	1	0.65
BC858A	€	SOT23	PNP	30	100	125	150	250	250	2	5	2	0.3
BC859	€	SOT23	PNP	30	100	125	150	250	800	2	5	1	0.3
BC859A	€	SOT23	PNP	30	100	125	150	250	250	2	5	1	0.3
JC558A		TO-92	PNP	30	100	125	200	500	250	2	5	2	0.3
JC559		TO-92	PNP	30	100	125	200	500	800	2	5	1	0.3
JC559A		TO-92	PNP	30	100	125	200	500	250	2	5	1	0.3
BCV62B	€	SOT143	PNP	30	100	220	150	250	475	2	5	2	0.3
BCV64B	€	SOT143	PNP	30	100	220	200	250	475	2	5		0.3
BC558B	€	TO-92	PNP	30	100	220	200	500	475	2	5	2	0.65
BC559B	€	TO-92	PNP	30	100	220	200	500	475	2	5	1	0.65
BC858B	€	SOT23	PNP	30	100	220	150	250	475	2	5	2	0.3
BC859B	€	SOT23	PNP	30	100	220	150	250	475	2	5	1	0.3
JC558B	€	TO-92	PNP	30	100	220	200	500	475	2	5	2	0.3
JC559B		TO-92	PNP	30	100	220	200	500	475	2	5	1	0.3
BCV62C	€	SOT143	PNP	30	100	420	150	250	800	2	5	2	0.3
BC558C	€	TO-92	PNP	30	100	420	200	500	800	2	5	2	0.65
BC559C	€	TO-92	PNP	30	100	420	200	500	800	2	5	1	0.65
BC858C	€	SOT23	PNP	30	100	420	150	250	800	2	5	2	0.3
BC859C	€	SOT23	PNP	30	100	420	150	250	800	2	5	1	0.3
JC558C	€	TO-92	PNP	30	100	420	200	500	800	2	5	2	0.3
JC559C		TO-92	PNP	30	100	420	200	500	800	2	5	1	0.3
2N4125	€	TO-92	PNP	30	200	50	200	350	200	2	10		0.4
MPS3703	€	TO-92	PNP	30	600	30	100	625	150	50	5		0.25
MPS6535		TO-92	PNP	30	600	30		625		100	1		0.5
BC376	€	TO-92	PNP	30	1000	100	100	800	400	150	1		0.4
BCF29	€	SOT23	PNP	32	100	120	150	350	260	2	5	1	0.3
BCW29	€	SOT23	PNP	32	100	120	150	250	260	2	5		0.3
BCX78/VII	€	TO-92	PNP	32	100	120	200	450	220	2	5	2	0.6
BCX78/VIII	€	TO-92	PNP	32	100	180	200	450	310	2	5	2	0.6
BCF30	€	SOT23	PNP	32	100	215	150	350	500	2	5	1	0.3
BCW30	€	SOT23	PNP	32	100	215	150	250	500	2	5		0.3
BCX78/IX	€	TO-92	PNP	32	100	250	200	450	460	2	5	2	0.6
BCX78/X	€	TO-92	PNP	32	100	380	200	450	630	2	5	2	0.6
BF569	€	SOT23	PNP	35	30	25	900	250		3		4.5	
BF970	€	SOT37	PNP	35	30	25	900	160		3	10	4.7	
BF970A	€	SOT37	PNP	35	30	25	900	160		3	10	4.7	
BF451	€	TO-92	PNP	40	25	30	350	250	90	1	10	2	
BF841	€	SOT23	PNP	40	25	40	380	250	125	1	10	2	

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BF550 €	SOT23	PNP	40	25	50	325	250		1	10	2	
BF450 €	TO-92	PNP	40	25	62	350	250	200	1	10	2	
BF840 €	SOT23	PNP	40	25	70	380	250		1	10	1.5	
MPS6517	TO-92	PNP	40	100	60		625		100	10		0.5
MPS6518 €	TO-92	PNP	40	100	90		625		100	10		0.5
PMBS3906 €	SOT23	PNP	40	200	100	250	300	300	10	1		0.25
PMBT3906 €	SOT23	PNP	40	200	100	250	250	300	10	1		0.25
MPS6534 €	TO-92	PNP	40	600	90		625	270	100	1		0.3
PZT2907	SOT223	PNP	40	600	100	200	1500	300	150	10		0.4
BC177 €	TO-18	PNP	45	100		150	300				2	0.3
BC177A €	TO-18	PNP	45	100		150	300				2	0.3
BC177B €	TO-18	PNP	45	100		150	300				2	0.3
BC557 €	TO-92	PNP	45	100	75	200	500	800	2	5	2	0.65
BC857 €	SOT23	PNP	45	100	75	150	250	800	2	5	2	0.3
JC557 €	TO-92	PNP	45	100	75	200	500	800	2	5	2	0.3
JA101 €	TO-92	PNP	45	100	90	130	500	600	1	5		0.3
JA101O	TO-92	PNP	45	100	90	130	500	180	1	5		0.3
BCW69 €	SOT23	PNP	45	100	120	150	250	260	2	5		0.3
BCX79/VII €	TO-92	PNP	45	100	120	200	450	220	2	5	2	0.6
BC557A €	TO-92	PNP	45	100	125	200	500	250	2	5	2	0.65
BC560 €	TO-92	PNP	45	100	125	200	500	800	2	5	1	0.65
BC560A €	TO-92	PNP	45	100	125	200	500	250	2	5	1	0.65
BC857A €	SOT23	PNP	45	100	125	150	250	250	2	5	2	0.3
BC860 €	SOT23	PNP	45	100	125	150	250	800	2	5	1	0.3
BC860A €	SOT23	PNP	45	100	125	150	250	250	2	5	1	0.3
JC557A	TO-92	PNP	45	100	125	200	500	250	2	5	2	0.3
JC560 €	TO-92	PNP	45	100	125	200	500	800	2	5	1	0.3
JC560A	TO-92	PNP	45	100	125	200	500	250	2	5	1	0.3
JA101P €	TO-92	PNP	45	100	135	130	500	270	1	5		0.3
BCX79/VIII €	TO-92	PNP	45	100	180	200	450	310	2	5	2	0.6
JA101Q €	TO-92	PNP	45	100	200	130	500	400	1	5		0.3
BCF70 €	SOT23	PNP	45	100	215	150	350	500	2	5	1	0.3
BCW70 €	SOT23	PNP	45	100	215	150	250	500	2	5		0.3
BC557B €	TO-92	PNP	45	100	220	200	500	475	2	5	2	0.65
BC560B €	TO-92	PNP	45	100	220	200	500	475	2	5	1	0.65
BC857B €	SOT23	PNP	45	100	220	150	250	475	2	5	2	0.3
BC860B €	SOT23	PNP	45	100	220	150	250	475	2	5	1	0.3
JC557B €	TO-92	PNP	45	100	220	200	500	475	2	5	2	0.3
JC560B	TO-92	PNP	45	100	220	200	500	475	2	5	1	0.3
BCX79/IX €	TO-92	PNP	45	100	250	200	450	460	2	5	2	0.6
JA101R €	TO-92	PNP	45	100	300	130	500	600	1	5		0.3
BCX79/X €	TO-92	PNP	45	100	380	200	450	630	2	5	2	0.6
BC557C €	TO-92	PNP	45	100	420	200	500	800	2	5	2	0.65
BC560C €	TO-92	PNP	45	100	420	200	500	800	2	5	1	0.65
BC857C €	SOT23	PNP	45	100	420	150	250	800	2	5	2	0.3
BC860C €	SOT23	PNP	45	100	420	150	250	800	2	5	1	0.3
JC557C	TO-92	PNP	45	100	420	200	500	800	2	5	2	0.3
JC560C	TO-92	PNP	45	100	420	200	500	800	2	5	1	0.3
BCX17 €	SOT23	PNP	45	500	100	100	250	600	100	1		0.62
BC327 €	TO-92	PNP	45	500	100	100	800	600	100	1		0.7
BC327-16 €	TO-92	PNP	45	500	100	100	800	250	100	1		0.7

Bipolar small signal

General purpose (cont.)

typenumber	outline	polarity	V_{CE} V	I_{C-max} mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
BC807 €	SOT23	PNP	45	500	100	100	250	600	100	1		0.7
BC807-16 €	SOT23	PNP	45	500	100	100	250	250	100	1		0.7
JC327 €	TO-92	PNP	45	500	100	100	800	600	100	1		0.7
JC327-16 €	TO-92	PNP	45	500	100	100	800	250	100	1		0.7
BC327-25 €	TO-92	PNP	45	500	160	100	800	400	100	1		0.7
BC807-25 €	SOT23	PNP	45	500	160	100	250	400	100	1		0.7
JC327-25 €	TO-92	PNP	45	500	160	100	800	400	100	1		0.7
BC327-40 €	TO-92	PNP	45	500	250	100	800	600	100	1		0.7
BC807-40 €	SOT23	PNP	45	500	250	100	250	600	100	1		0.7
JC327-40	TO-92	PNP	45	500	250	100	800	600	100	1		0.7
BCP51	SOT223	PNP	45	1000	40	50	1500	250	150	2		0.5
BCX51 €	SOT89	PNP	45	1000	40	50	1000	250	150	2		0.5
BC636 €	TO-92	PNP	45	1000	40	50	1000	250	150	2		0.5
BCP51-10	SOT223	PNP	45	1000	63	50	1500	160	150	2		0.5
BCX51-10 €	SOT89	PNP	45	1000	63	50	1000	160	150	2		0.5
BC636-10 €	TO-92	PNP	45	1000	63	50	1000	160	150	2		0.5
BCP51-16	SOT223	PNP	45	1000	100	50	1500	250	150	2		0.5
BCX51-16 €	SOT89	PNP	45	1000	100	50	1000	250	150	2		0.5
BC636-16 €	TO-92	PNP	45	1000	100	50	1000	250	150	2		0.5
2N5086 €	TO-92	PNP	50	50	150	40	625		1	5		0.3
2N5087 €	TO-92	PNP	50	50	250	40	625		1	5		0.3
2PA733 €	TO-92	PNP	50	100	90	100	500	600	1	6	6	0.3
2PA733R €	TO-92	PNP	50	100	90	100	500	180	1	6	6	0.3
2PA733Q €	TO-92	PNP	50	100	135	100	500	270	1	6	6	0.3
2PA733P €	TO-92	PNP	50	100	200	100	500	400	1	6	6	0.3
2PA733K €	TO-92	PNP	50	100	300	100	500	600	1	6	6	0.3
2PA1015 €	TO-92	PNP	50	150	120	80	500	700	2	6		0.3
2PA1015L	TO-92	PNP	50	150	120	80	500	700	2	6		0.3
2PA1015Y €	TO-92	PNP	50	150	120	80	500	240	2	6		0.3
2PA1015GR €	TO-92	PNP	50	150	200	80	500	400	2	6		0.3
2PA1015BL €	TO-92	PNP	50	150	350	80	500	700	2	6		0.3
BR101	TO-72	PNP	50	175	50	300	275		10	2		0.5
BCW89 €	SOT23	PNP	60	100	120	150	250	260	2	5		0.3
MPSA55 €	TO-92	PNP	60	500	50	50	625		100	1		0.25
PMBTA55 €	SOT23	PNP	60	500	50	50	250		100	1		0.25
PZTA55	SOT223	PNP	60	500	50	50	1500		100	1		0.25
BC327A €	TO-92	PNP	60	500	100	100	800	400	100	1		0.7
JC327A €	TO-92	PNP	60	500	100	100	800	400	100	1		0.7
PZT2907A	SOT223	PNP	60	600	100	200	1500	300	150	10		0.4
BCP52	SOT223	PNP	60	1000	40	50	1500	250	150	2		0.5
BCX52 €	SOT89	PNP	60	1000	40	50	1000	250	150	2		0.5
BC638 €	TO-92	PNP	60	1000	40	50	1000	250	150	2		0.5
BCP52-10	SOT223	PNP	60	1000	63	50	1500	160	150	2		0.5
BCX52-10 €	SOT89	PNP	60	1000	63	50	1000	160	150	2		0.5
BC638-10 €	TO-92	PNP	60	1000	63	50	1000	160	150	2		0.5
BCP52-16	SOT223	PNP	60	1000	100	50	1500	250	150	2		0.5
BCX52-16 €	SOT89	PNP	60	1000	100	50	1000	250	150	2		0.5
BC638-16 €	TO-92	PNP	60	1000	100	50	1000	250	150	2		0.5
BSS44	TO-39	PNP	60	5000	30	70	870		500	2		1
BC556 €	TO-92	PNP	65	100	75	200	500	475	2	5	2	0.65
BC856 €	SOT23	PNP	65	100	75	150	250	800	2	5	2	0.3

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-}max}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
JC556 €	TO-92	PNP	65	100	75	200	500	475	2	5	2	0.3
BC556A €	TO-92	PNP	65	100	125	200	500	250	2	5	2	0.65
BC856A €	SOT23	PNP	65	100	125	150	250	250	2	5	2	0.3
JC556A €	TO-92	PNP	65	100	125	200	500	250	2	5	2	0.3
BC556B €	TO-92	PNP	65	100	220	200	500	475	2	5	2	0.65
BC856B €	SOT23	PNP	65	100	220	150	250	475	2	5	2	0.3
JC556B €	TO-92	PNP	65	100	220	200	500	475	2	5	2	0.3
MPSA56 €	TO-92	PNP	80	500	50	50	625		100	1		0.25
PMBTA56 €	SOT23	PNP	80	500	50	50	250		100	1		0.25
PZTA56	SOT223	PNP	80	500	50	50	1500		100	1		0.25
BCP53	SOT223	PNP	80	1000	40	50	1500	250	150	2		0.5
BCX53 €	SOT89	PNP	80	1000	40	50	1000	250	150	2		0.5
BC640 €	TO-92	PNP	80	1000	40	50	1000	250	150	2		0.5
BCP53-10	SOT223	PNP	80	1000	63	50	1500	160	150	2		0.5
BCX53-10 €	SOT89	PNP	80	1000	63	50	1000	160	150	2		0.5
BC640-10 €	TO-92	PNP	80	1000	63	50	1000	160	150	2		0.5
BCP53-16	SOT223	PNP	80	1000	100	50	1500	250	150	2		0.5
BCX53-16 €	SOT89	PNP	80	1000	100	50	1000	250	150	2		0.5
BC640-16 €	TO-92	PNP	80	1000	100	50	1000	250	150	2		0.5
BSS63 €	SOT23	PNP	100	100	30	50	250		25	1		0.25
BSS68 €	TO-92	PNP	100	100	30	50	500		25	5		0.25
BSR20 €	SOT23	PNP	120	600	40	100	250	180	10	5		0.5
2N5400 €	TO-92	PNP	120	600	40	100	500	180	10	5		0.5
2N5680	TO-39	PNP	120	1000	40	30	1000	150	250	2		0.6
BCX23	TO-18	PNP	125	800	63	100	450		100	1		0.9
PMBT5401 €	SOT23	PNP	150	500	60	100	250	240	10	5		0.5
BSR20A €	SOT23	PNP	150	600	60	100	250	240	10	5		0.5
2N5401 €	TO-92	PNP	150	600	60	100	500	240	10	5		0.5
MPSA93 €	TO-92	PNP	200	500	25	50	625		30	10		0.5
PMBTA93 €	SOT23	PNP	200	500	40	50	250		10	10		0.5
PXTA93 €	SOT89	PNP	200	500	40	50	1000		10	10		0.5
PZTA93	SOT223	PNP	200	500	40	50	1500		10	10		0.5
BSP15	SOT223	PNP	200	1000	30	15	1500	150	50	10		2.5
BST15 €	SOT89	PNP	200	1000	30	15	1000	150	50	10		2.5
PH5415 €	TO-92	PNP	200	1000	30	15	625	150	50	10		0.8
PN5415 €	TO-92	PNP	200	1000	30	15	625	150	50	10		0.8
2N5415	TO-39	PNP	200	1000	30	15	1000	150	50	10		2.5
BF423 €	TO-92	PNP	250	50	50	60	830		25	20		0.6
BF623 €	SOT89	PNP	250	50	50	60	1000		25	20		0.8
BF723	SOT223	PNP	250	50	50	60	1500		25	20		0.8
BF823 €	SOT23	PNP	250	50	50	60	250		25	20		0.8
BF484 €	TO-92	PNP	250	100	50	70	830		25	20		0.5
BFT45	TO-39	PNP	250	500	50	70	5000	150	10	10		1.4
BF421 €	TO-92	PNP	300	50	50	60	830		25	20		0.6
BF621 €	SOT89	PNP	300	50	50	60	1000		25	20		0.8
BF721	SOT223	PNP	300	50	50	60	1500		25	20		0.8
BF821 €	SOT23	PNP	300	50	50	60	250		25	20		0.8
BF486 €	TO-92	PNP	300	100	50	70	830		25	20		0.5
MPSA92 €	TO-92	PNP	300	500	25	50	625		30	10		0.5
PMBTA92 €	SOT23	PNP	300	500	40	50	250		10	10		0.5
PXTA92 €	SOT89	PNP	300	500	40	50	1000		10	10		0.5

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	h_{FE} min	f_T MHz	P_{max} mW	h_{FE} max	@ I_C mA	@ V_{CE} V	F typ dB	V-CEsat max V
PZTA92	SOT223	PNP	300	500	40	50	1500		10	10		0.5
BFT44	TO-39	PNP	300	500	50	70	5000	150	10	10		1.4
BSP16	SOT223	PNP	300	1000	30	15	1500	120	50	10		2
BST16 €	SOT89	PNP	300	1000	30	15	1000	120	50	10		2
PH5416 €	TO-92	PNP	300	1000	30	15	625	120	50	10		0.8
PN5416 €	TO-92	PNP	300	1000	30	15	625	120	50	10		0.8
2N5416	TO-39	PNP	300	1000	30	15	1000	120	50	10		2
BF488 €	TO-92	PNP	350	100	50	70	830		25	20		0.5

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-}max}$ mA	t_{off} max ns	P_{max} mW	h_{FE} min	h_{FE} max	@ I_C mA	@ V_{CE} V	f_T min MHz
BSV52 €	SOT23	NPN	12	100	18	250	40	120	10	1	400
2N2369A	TO-18	NPN	15	200	18	360	40	120	10	0.35	500
BSX20	TO-18	NPN	15	500	18	360	40	120	10	1	500
PH2369 €	TO-92	NPN	15	500	18	500	40	120	10	1	500
PMBT2369 €	SOT23	NPN	15	500	18	250	40	120	10	1	
2N2369	TO-18	NPN	15	500	18	360	40	120	10	1	500
PN2369 €	TO-92	NPN	15	600	18	625	40	120	10	1	
PN2369A €	TO-92	NPN	15	600	18	625	40	120	10	0.35	
PMBT2222 €	SOT23	NPN	30	600	285	250	100	300	150	10	250
PN2222 €	TO-92	NPN	30	600	285	625	100	300	150	10	250
PXT2222 €	SOT89	NPN	30	600	285	1000	100	300	150	10	250
BSR13 €	SOT23	NPN	30	800	285	250	100	300	150	10	250
PH2222 €	TO-92	NPN	30	800	285	625	75		10	10	250
2N2219 €	TO-39	NPN	30	800	285	800	100	300	150	10	250
2N2222 €	TO-18	NPN	30	800	285	500	100	300	150	10	250
BSX60	TO-39	NPN	30	1000	70	800	30	90	500	1	250
BCW60A €	SOT23	NPN	32	200	800	250	120	220	2	5	
BCW60B €	SOT23	NPN	32	200	800	250	180	310	2	5	
BCW60C €	SOT23	NPN	32	200	800	250	250	460	2	5	
BCW60D €	SOT23	NPN	32	200	800	250	380	630	2	5	
BCY58/IX €	TO-18	NPN	32	200	800	330	250	460	2	5	150
BCY58/VII €	TO-18	NPN	32	200	800	330	120	220	2	5	150
BCY58/VIII €	TO-18	NPN	32	200	800	330	180	310	2	5	150
BCY58/X €	TO-18	NPN	32	200	800	330	380	630	2	5	150
2N3903 €	TO-92	NPN	40	200	225	350	50	150	10	1	250
BSR17A €	SOT23	NPN	40	200	250	250	100	300	10	1	300
PMBT3904 €	SOT23	NPN	40	200	250	250	100	300	10	1	300
PXT3904 €	SOT89	NPN	40	200	250	1000	100	300	10	1	300
PZT3904	SOT223	NPN	40	200	250	1500	100	300	10	1	300
2N3904 €	TO-92	NPN	40	200	250	350	100	300	10	1	300
MPS3904 €	TO-92	NPN	40	200	990	625	100	300	10	1	300
PMBT4401 €	SOT23	NPN	40	600	255	250	100	300	150	1	250
PXT4401 €	SOT89	NPN	40	600	255	1000	100	300	150	1	250
2N4400 €	TO-92	NPN	40	600	255	625	50	100	100	2	200
2N4401 €	TO-92	NPN	40	600	255	625	150	300	100	2	250
PMBT2222A €	SOT23	NPN	40	600	285	250	100	300	150	10	300
PN2222A €	TO-92	NPN	40	600	285	625	100	300	150	10	300
PXT2222A €	SOT89	NPN	40	600	285	1000	100	300	150	10	300
PZT2222A	SOT223	NPN	40	600	285	1500	100	300	150	10	300
BSR14 €	SOT23	NPN	40	800	285	250	100	300	150	10	300
PH2222A €	TO-92	NPN	40	800	285	625	75		10	10	300
2N2219A €	TO-39	NPN	40	800	285	800	100	300	150	10	300
2N2222A €	TO-18	NPN	40	800	285	500	100	300	150	10	300
BSX32	TO-39	NPN	40	1000	60	800	20	150	1000	5	300
BC140 €	TO-39	NPN	40	1000	850	3700	63	250	100	1	50
BC140-10 €	TO-39	NPN	40	1000	850	3700	63	160	100	1	50
BC140-16 €	TO-39	NPN	40	1000	850	3700	100	250	100	1	50
BSX45 €	TO-39	NPN	40	1000	850	6250	63	250	100	1	50
BSX45-10 €	TO-39	NPN	40	1000	850	6250	63	160	100	1	50
BSX45-16 €	TO-39	NPN	40	1000	850	6250	100	250	100	1	50
BSX62-10 €	TO-39	NPN	40	3000	1500	875	63	160	1000	1	30

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	t_{off} max ns	P_{max} mW	h_{FE} min	h_{FE} max	@ I_C mA	@ V_{CE} V	f_T min MHz
BSX62-16 ∈	TO-39	NPN	40	3000	1500	875	100	250	1000	1	30
BCX70G ∈	SOT23	NPN	45	200	800	250	120	220	2	5	125
BCX70H ∈	SOT23	NPN	45	200	800	250	180	310	2	5	125
BCX70J ∈	SOT23	NPN	45	200	800	250	250	460	2	5	125
BCX70K ∈	SOT23	NPN	45	200	800	250	380	630	2	5	125
BCY59/IX ∈	TO-18	NPN	45	200	800	330	250	460	2	5	150
BCY59/VII ∈	TO-18	NPN	45	200	800	330	120	220	2	5	150
BCY59/VIII ∈	TO-18	NPN	45	200	800	330	180	310	2	5	150
BCY59/X ∈	TO-18	NPN	45	200	800	330	380	630	2	5	150
BSX59	TO-39	NPN	45	1000	60	800	30	90	500	1	250
BSX61	TO-39	NPN	45	1000	100	800	30	90	500	1	250
BSR50 ∈	TO-92	NPN	45	1000	1500	1000	1000		150	10	
2N1613 ∈	TO-39	NPN	50	500	15	800	40	120	150	10	60
BCY65/IX ∈	TO-18	NPN	60	200	800	330	250	460	2	5	125
BCY65/VII ∈	TO-18	NPN	60	200	800	330	120	220	2	5	125
BCY65/VIII ∈	TO-18	NPN	60	200	800	330	180	310	2	5	125
BC141 ∈	TO-39	NPN	60	1000	850	3700	63	250	100	1	50
BC141-10 ∈	TO-39	NPN	60	1000	850	3700	63	160	100	1	50
BC141-16 ∈	TO-39	NPN	60	1000	850	3700	100	250	100	1	50
BSX46 ∈	TO-39	NPN	60	1000	850	6250	63	250	100	1	50
BSX46-10 ∈	TO-39	NPN	60	1000	850	6250	63	160	100	1	50
BSX46-16 ∈	TO-39	NPN	60	1000	850	6250	100	250	100	1	50
BSP40	SOT223	NPN	60	1000	1000	1500	40	120	100	5	100
BSP41	SOT223	NPN	60	1000	1000	1500	100	300	100	5	100
BSR40 ∈	SOT89	NPN	60	1000	1000	1000	40	120	100	5	100
BSR41 ∈	SOT89	NPN	60	1000	1000	1000	100	300	100	5	100
BSR51 ∈	TO-92	NPN	60	1000	1500	1000	1000		150	10	
BFX34 ∈	TO-39	NPN	60	2000	1200	870	40	150	2000	2	70
BSV64 ∈	TO-39	NPN	60	2000	1200	5000	40		2000	2	
BSX63-10 ∈	TO-39	NPN	60	3000	1500	875	63	160	1000	1	30
BSX63-16 ∈	TO-39	NPN	60	3000	1500	875	100	250	1000	1	30
BSS64 ∈	SOT23	NPN	80	100	1000	250	20		10	1	60
BSX47 ∈	TO-39	NPN	80	1000	850	6250	63	250	100	1	50
BSX47-10 ∈	TO-39	NPN	80	1000	850	6250	63	160	100	1	50
BSP42	SOT223	NPN	80	1000	1000	1500	40	120	100	5	100
BSP43	SOT223	NPN	80	1000	1000	1500	100	300	100	5	100
BSR42 ∈	SOT89	NPN	80	1000	1000	1000	40	120	100	5	100
BSR43 ∈	SOT89	NPN	80	1000	1000	1000	100	300	100	5	100
BSR52 ∈	TO-92	NPN	80	1000	1500	1000	1000		150	10	
BSS38 ∈	TO-92	NPN	100	100	1000	500	20		4	1	60
2N2894A	TO-18	PNP	12	200	35	360	40	150	30	0.5	800
BSR12	SOT23	PNP	15	100	30	250	30	120	50	1	1500
BCY72 ∈	TO-18	PNP	25	200	420	350	100		10	1	250
BCW61A ∈	SOT23	PNP	32	200	800	250	120	220	2	5	
BCW61B ∈	SOT23	PNP	32	200	800	250	180	310	2	5	
BCW61C ∈	SOT23	PNP	32	200	800	250	250	460	2	5	
BCW61D ∈	SOT23	PNP	32	200	800	250	380	630	2	5	
BCY78/IX ∈	TO-18	PNP	32	200	800	345	250	460	2	5	
BCY78/VII ∈	TO-18	PNP	32	200	800	345	120	220	2	5	
BCY78/VIII ∈	TO-18	PNP	32	200	800	345	180	310	2	5	
BCY78/X ∈	TO-18	PNP	32	200	800	345	380	630	2	5	

Switching (cont.)

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	t_{off} max ns	P_{max} mW	h_{FE} min	h_{FE} max	@ I_C mA	@ V_{CE} V	f_T min MHz
2N3905	TO-92	PNP	40	200	260	350	50	150	10	1	200
BSR18A €	SOT23	PNP	40	200	300	250	100	300	10	1	250
PXT3906 €	SOT89	PNP	40	200	300	1000	100	300	10	1	250
PZT3906	SOT223	PNP	40	200	300	1500	100	300	10	1	250
2N3906 €	TO-92	PNP	40	200	300	350	100	300	10	1	250
BCY70 €	TO-18	PNP	40	200	420	350	100		10	1	250
MPS3906 €	TO-92	PNP	40	200	690	625	100	300	10	1	250
BSR15 €	SOT23	PNP	40	600	100	250	100	300	150	10	200
PH2907 €	TO-92	PNP	40	600	100	625	100	300	150	10	200
PMBT2907 €	SOT23	PNP	40	600	100	250	30		500	10	200
PN2907 €	TO-92	PNP	40	600	100	625	100	300	150	10	200
PXT2907 €	SOT89	PNP	40	600	100	1000	100	300	150	2	200
2N2904 €	TO-39	PNP	40	600	100	600	40	120	150	10	200
2N2905 €	TO-39	PNP	40	600	100	600	100	300	150	10	200
2N2906 €	TO-18	PNP	40	600	100	400	40	120	150	10	200
2N2907 €	TO-18	PNP	40	600	100	400	100	300	150	10	200
BFX88 €	TO-39	PNP	40	600	150	600	40		10	10	100
PXT4403 €	SOT89	PNP	40	600	235	1000	100	300	150	2	200
PMBT4403 €	SOT23	PNP	40	600	255	250	100	300	150	2	200
2N4402 €	TO-92	PNP	40	600	255	625	50	100	150	2	150
2N4403 €	TO-92	PNP	40	600	255	625	150	300	150	2	200
BC160 €	TO-39	PNP	40	1000	650	3700	63	250	100	1	50
BC160-10 €	TO-39	PNP	40	1000	650	3700	63	160	100	1	50
BC160-16 €	TO-39	PNP	40	1000	650	3700	100	250	100	1	50
BSV15-10 €	TO-39	PNP	40	1000	650	800	63	160	100	1	50
BSV15-16 €	TO-39	PNP	40	1000	650	800	100	250	100	1	50
BCY71 €	TO-18	PNP	45	200	420	350	100	400	10	1	250
BCX71G €	SOT23	PNP	45	200	800	250	120	220	2	5	
BCX71H €	SOT23	PNP	45	200	800	250	180	310	2	5	
BCX71J €	SOT23	PNP	45	200	800	250	250	460	2	5	
BCX71K €	SOT23	PNP	45	200	800	250	380	630	2	5	
BCY79/IX €	TO-18	PNP	45	200	800	345	250	460	2	5	
BCY79/VII €	TO-18	PNP	45	200	800	345	120	220	2	5	
BCY79/VIII €	TO-18	PNP	45	200	800	345	180	310	2	5	
BSR60 €	TO-92	PNP	45	1000	1500	800	2000		500	10	
BFX87 €	TO-39	PNP	50	600	150	600	40		10	10	100
BSR16 €	SOT23	PNP	60	600	100	250	100	300	150	10	200
PH2907A €	TO-92	PNP	60	600	100	625	100	300	150	10	200
PMBT2907A €	SOT23	PNP	60	600	100	250	50		500	10	200
PN2907A €	TO-92	PNP	60	600	100	625	100	300	150	10	200
PXT2907A €	SOT89	PNP	60	600	100	1000	100	300	150	10	200
2N2904A €	TO-39	PNP	60	600	100	600	40	120	150	10	200
2N2905A €	TO-39	PNP	60	600	100	600	100	300	150	10	200
2N2906A €	TO-18	PNP	60	600	100	400	40	120	150	10	200
2N2907A €	TO-18	PNP	60	600	100	400	100	300	150	10	200
BFX29 €	TO-39	PNP	60	600	150	600	50		10	10	100
2N4030	TO-39	PNP	60	1000	400	800	25		500	5	100
2N4032	TO-39	PNP	60	1000	400	800	70		500	5	150
BC161 €	TO-39	PNP	60	1000	650	3700	63	250	100	1	50
BC161-10 €	TO-39	PNP	60	1000	650	3700	63	160	100	1	50
BC161-16 €	TO-39	PNP	60	1000	650	3700	100	250	100	1	50

Bipolar small signal

Switching (cont.)

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-max}}$ mA	t_{off} max ns	P_{max} mW	h_{FE} min	h_{FE} max	@ I_C mA	@ V_{CE} V	f_T min MHz
BSP30	SOT223	PNP	60	1000	650	1500	40	120	100	5	100
BSP31	SOT223	PNP	60	1000	650	1500	100	300	100	5	100
BSR30 €	SOT89	PNP	60	1000	650	1000	40	120	100	5	100
BSR31 €	SOT89	PNP	60	1000	650	1000	100	300	100	5	100
BSV16-10 €	TO-39	PNP	60	1000	650	800	63	160	100	1	50
BSV16-16 €	TO-39	PNP	60	1000	650	800	100	250	100	1	50
BSR61 €	TO-92	PNP	60	1000	1500	800	2000		500	10	
BFX30 €	TO-39	PNP	65	600	290	600	40	200	1	0.4	
2N4036	TO-39	PNP	65	1000	700	7000	20	200	150	2	
2N4031	TO-39	PNP	80	1000	400	800	25		500	5	100
2N4033	TO-39	PNP	80	1000	400	800	70		500	5	150
BSP32	SOT223	PNP	80	1000	650	1500	40	120	100	5	100
BSP33	SOT223	PNP	80	1000	650	1500	100	300	100	5	100
BSR32 €	SOT89	PNP	80	1000	650	1000	40	120	100	5	100
BSR33 €	SOT89	PNP	80	1000	650	1000	100	300	100	5	100
BSV17-10 €	TO-39	PNP	80	1000	650	800	63	160	100	1	50
BSR62 €	TO-92	PNP	80	1000	1500	800	2000		500	10	
BSS46	TO-39	PNP	80	5000	1000	870	25		500	2	70

typenumber	outline	polarity	V_{CE} V	$I_{C\text{-}max}$ mA	h_{FE} min	@ I_C mA	@ V_{CE} V	f_T MHz	P_{max} mW	V-CEsat max V
PMBTA13 €	SOT23	NPN	30	300	5000	10	5	125	250	1.5
PMBTA14 €	SOT23	NPN	30	300	10000	10	5	125	250	1.5
PZTA13	SOT223	NPN	30	300	10000	100	5	125	1500	1.5
BCV27 €	SOT23	NPN	30	300	20000	100	5	220	250	1
PXTA14 €	SOT89	NPN	30	300	20000	100	5	125	1000	1.5
PZTA14	SOT223	NPN	30	300	20000	100	5	125	1500	1.5
BC517 €	TO-92	NPN	30	400	30000	20	2	220	625	1
BCV29 €	SOT89	NPN	30	500	4000	1	5	220	1000	1
MPSA13 €	TO-92	NPN	30	500	5000	10	5	125	625	1.5
MPSA14 €	TO-92	NPN	30	500	10000	10	5	125	625	1.5
MPSA25 €	TO-92	NPN	40	500	10000	10	5	125	500	1.5
BC617 €	TO-92	NPN	40	1000	4000	1	5	155	625	1.1
BST50 €	SOT89	NPN	45	500	1000	150	10		1000	1.3
BSP50	SOT223	NPN	45	500	2000	500	10		1500	1.3
BC875 €	TO-92	NPN	45	1000	1000	150	10	200	1000	1.8
BSR50 €	TO-92	NPN	45	1000	1000	150	10		1000	1.3
BSS50 €	TO-39	NPN	45	1000	2000	500	10		800	1.6
MPSA26	TO-92	NPN	50	500	10000	10	5	125	500	1.5
BC618 €	TO-92	NPN	55	1000	2000	1	5	155	625	1.1
BST51 €	SOT89	NPN	60	500	1000	150	10		1000	1.3
BCV49 €	SOT89	NPN	60	500	2000	1	5	220	1000	1
BSP51	SOT223	NPN	60	500	2000	500	10		1500	1.3
MPSA27	TO-92	NPN	60	500	10000	10	5	125	500	1.5
PXTA27	SOT89	NPN	60	500	10000	100	5	125	1000	1.5
BC877 €	TO-92	NPN	60	1000	1000	150	10	200	1000	1.8
BSR51 €	TO-92	NPN	60	1000	1000	150	10		1000	1.3
BSS51 €	TO-39	NPN	60	1000	2000	500	10		800	1.6
BST52 €	SOT89	NPN	80	500	1000	150	10		1000	1.3
BCV47 €	SOT23	NPN	80	500	2000	1	5	220	250	1
BSP52	SOT223	NPN	80	500	2000	500	10		1500	1.3
BC879 €	TO-92	NPN	80	1000	1000	150	10	200	1000	1.8
BSR52 €	TO-92	NPN	80	1000	1000	150	10		1000	1.3
BSS52 €	TO-39	NPN	80	1000	2000	500	10		800	1.6
BCV26 €	SOT23	PNP	30	300	20000	100	5	220	250	1
PXTA64 €	SOT89	PNP	30	300	20000	100	5	125	1000	1.5
BC516 €	TO-92	PNP	30	400	30000	20	2	220	625	1
BCV28 €	SOT89	PNP	30	500	4000	1	5	220	1000	1
MPSA63 €	TO-92	PNP	30	500	5000	10	5	125	625	1.5
PMBTA63 €	SOT23	PNP	30	500	5000	10	5	125	250	1.5
PZTA63	SOT223	PNP	30	500	5000	10	5	125	1500	1.5
MPSA64 €	TO-92	PNP	30	500	10000	10	5	125	625	1.5
PMBTA64 €	SOT23	PNP	30	500	10000	10	5	125	250	1.5
PZTA64	SOT223	PNP	30	500	10000	10	5	125	1500	1.5
MPSA75 €	TO-92	PNP	40	500	10000	10	5	125	500	1.5
BST60 €	SOT89	PNP	45	500	1000	150	10		1000	1.3
BSP60	SOT223	PNP	45	500	2000	500	10		1500	1.3
BC876 €	TO-92	PNP	45	1000	1000	150	10	200	1000	1.8
BSR60 €	TO-92	PNP	45	1000	2000	500	10		800	1.3
BSS60 €	TO-39	PNP	45	1000	2000	500	10		800	1.6
MPSA76	TO-92	PNP	50	500	10000	10	5	125	500	1.5
BST61 €	SOT89	PNP	60	500	1000	150	10		1000	1.3

typenumber		outline	polarity	V_{CE} V	$I_{C\text{-}max}$ mA	h_{FE} min	@ I_C mA	@ V_{CE} V	f_T MHz	P_{max} mW	V-CEsat max V
BCV48		SOT89	PNP	60	500	2000	1	5	220	1000	1
BSP61		SOT223	PNP	60	500	2000	500	10		1500	1.3
MPSA77		TO-92	PNP	60	500	10000	10	5	125	500	1.5
PXTA77		SOT89	PNP	60	500	10000	100	5	125	1000	1.5
BC878	∈	TO-92	PNP	60	1000	1000	150	10	200	1000	1.8
BSR61	∈	TO-92	PNP	60	1000	2000	500	10		800	1.3
BSS61	∈	TO-39	PNP	60	1000	2000	500	10		800	1.6
BST62	∈	SOT89	PNP	80	500	1000	150	10		1000	1.3
BCV46	∈	SOT23	PNP	80	500	2000	1	5	220	250	1
BSP62		SOT223	PNP	80	500	2000	500	10		1500	1.3
BC880	∈	TO-92	PNP	80	1000	1000	150	10	200	1000	1.8
BSR62	∈	TO-92	PNP	80	1000	2000	500	10		800	1.4
BSS62	∈	TO-39	PNP	80	1000	2000	500	10		800	1.6

typenumber	outline	polarity	V_{CEO} V	$I_{C\text{-}max}$ mA	V_o typ mV	P_{max} W	f_T GHz	G_{UM} typ dB	@ f MHz	ITO typ dBm	F typ dB	@ f MHz
BFT24 ∈	SOT37	NPN	5	2.5		0.03	2.3	17	500		3.8	500
BFG25A/X	SOT143	NPN	5	6.5		0.032	5	15	1000		1.8	1000
BFT25 ∈	SOT23	NPN	5	6.5		0.3	2.3	18	500		3.8	500
BFT25A	SOT23	NPN	5	6.5		0.032	5	15	1000		2	1000
BFG33	SOT143	NPN	7	20		0.14	12	12.5	2000		3	2000
BFG33/X	SOT143	NPN	7	20		0.14	12	12.5	2000		3	2000
BFG33/XR	SOT143	NPN	7	20		0.3	12	10.5	2000		2.5	2000
BFQ33	SOT100	NPN	7	20		0.14	12	13.7	2000		2.5	2000
BFQ33C	SOT173	NPN	7	20		0.14	12	12.5	2000		3	2000
BFG65 ∈	SOT103	NPN	10	50		0.3	7.5	10.5	2000		3	2000
BFG67 ∈	SOT143	NPN	10	50		0.3	7.5	10	2000		2.2	2000
BFG67/X ∈	SOT143	NPN	10	50		0.3	7.5	10	2000		2.2	2000
BFG67/XR ∈	SOT143R	NPN	10	50		0.3	7.5	10	2000		2.2	2000
BFG67R	SOT143R	NPN	10	50		0.3	7.5	10	2000		2.2	2000
BFQ65 ∈	SOT37	NPN	10	50		0.3	7.5	8	2000		3	2000
BFQ66	SOT173	NPN	10	50		0.35	7.5	11.5	2000		3	2000
BFQ67 ∈	SOT23	NPN	10	50		0.3	7.5	8	2000		3	2000
BFR53	SOT23	NPN	10	50	100	0.3	2	10.5	800	24	5	
BFW30	TO-72	NPN	10	50	100	0.25	1.6			24	5	
BFW93	SOT37	NPN	10	50	100	0.2	1.7	10.5	800	24	5	
BFG195 ∈	SOT103	NPN	10	100		0.5	7.5	11	2000		1.4	800
BFG197 ∈	SOT143	NPN	10	100		0.3	7.5	10	2000		1.7	1000
BFG197/X ∈	SOT143	NPN	10	100		0.3	7.5	10	2000		1.7	1000
BFG197/XR	SOT143R	NPN	10	100		0.3	7.5	10	2000		1.7	1000
BFG198 ∈	SOT223	NPN	10	100	700	1	8	15	800			
BFQ161	TO-92	NPN	10	500		0.71	1					
BFQ162	TO-126	NPN	10	500		3	1					
BFQ163	TO-39	NPN	10	500		3	1					
BFG93A ∈	SOT143	NPN	12	35		0.3	6	10	2000		1.9	1000
BFG93A/X ∈	SOT143	NPN	12	35		0.3	6	10	2000		1.9	1000
BFG93A/XR ∈	SOT143	NPN	12	35		0.3	6	10	2000		1.9	1000
BFQ22S	TO-72	NPN	12	35	300	0.15	5	16	500	33	1.9	500
BFR91 ∈	SOT37	NPN	12	35	300	0.2	5	18	500	33	1.9	500
BFR93 ∈	SOT23	NPN	12	35	300	0.3	5	16.5	500	33	1.9	500
BFG91A ∈	SOT103	NPN	12	35	425	0.3	6	9.5	2000	36	2.3	800
BFR91A ∈	SOT37	NPN	12	35	425	0.3	6	14	800	36	2.3	800
BFR93A ∈	SOT23	NPN	12	35	425	0.3	5	14	800	35	1.6	800
BFP91A	SOT173	NPN	12	50	425	0.35	6	18.5	800	36	2.3	800
BFG94 ∈	SOT223	NPN	12	60	500	0.7	6	13.5	1000	34	3	1000
BFG92A ∈	SOT143	NPN	15	25		0.3	5	9.5	2000		2.1	1000
BFG92A/X ∈	SOT143	NPN	15	25		0.3	5	9.5	2000		2.1	1000
BFG92A/XR ∈	SOT143	NPN	15	25		0.3	5	9.5	2000		2.1	1000
BFR49	SOT100	NPN	15	25		0.18	5	17	1000		2.5	1000
BFS17 ∈	SOT23	NPN	15	25		0.3	1.3				4.5	500
BFW92 ∈	SOT37	NPN	15	25		0.2	1.6				4	500
BFX89	TO-72	NPN	15	25		0.2	1.2				3.3	200
BFY90	TO-72	NPN	15	25		0.2	1.4				2.5	200
BF689K	TO-92	NPN	15	25		0.36	1.8				3	200
BF763	TO-92	NPN	15	25		0.5	1.8				5	800
BFG90A ∈	SOT103	NPN	15	25	150	0.2	5	19	800	27	2.4	800
BFQ53	TO-72	NPN	15	25	150	0.15	5	18	500	26	2.4	500

Bipolar wide-band

Bipolar wide-band (cont.)

typenumber		outline	polarity	V_{CEO} V	$I_{C\text{-}max}$ mA	V_o typ mV	P_{max} W	f_T GHz	G_{UM} typ dB	@ f MHz	ITO typ dBm	F typ dB	@ f MHz
BFR90	€	SOT37	NPN	15	25	150	0.2	5	19.5	500	26	2.4	500
BFR90A	€	SOT37	NPN	15	25	150	0.2	5	15	800	27	1.8	800
BFR92	€	SOT23	NPN	15	25	150	0.3	5	18	500	26	2.4	500
BFR92A	€	SOT23	NPN	15	25	150	0.3	5	15.5	800	27	1.8	800
BFS17A	€	SOT23	NPN	15	25	150	0.3	2.8	13.5	800	26	2.5	800
BFW92A	€	SOT37	NPN	15	25	150	0.2	2.8	13	800	26	2.5	800
BFP90A		SOT173	NPN	15	30	150	0.25	5	19.5	800	27	2.4	800
2N918		TO-72	NPN	15	50		0.2	0.9	36	200		6	
BFG17A	€	SOT143	NPN	15	50	150	0.3	2.8	15	800		2.5	800
BFQ19	€	SOT89	NPN	15	75	500	0.5	5	7.5	800	37	3.3	500
BFQ63		TO-72	NPN	15	75	500	0.25	4.5	11.5	500	37	2.3	500
BFR96	€	SOT37	NPN	15	75	500	0.5	5	15.2	500	37	3.3	500
BFG96	€	SOT103	NPN	15	75	700	0.7	5	15	800	40	4	800
BFR106	€	SOT23	NPN	15	100	250	0.35	3.7	11.5	800		3.5	800
BFG97	€	SOT223	NPN	15	100	700	1	5.5	12	800		2	500
BFP96		SOT173	NPN	15	100	700	0.5	5	15	800	40	3.7	800
BFR96S	€	SOT37	NPN	15	100	700	0.7	5	11.5	800	40	4	800
BFQ18A	€	SOT89	NPN	15	150	700	1	3.6			40		
BFG134		SOT103	NPN	15	150	850	1	7	14.5	800			
BFG135		SOT223	NPN	15	150	850	1	7	12	800			
BFR134		SOT37	NPN	15	150	850	1	7	11.5	800			
BFG34	€	SOT103	NPN	18	150	750	1	3.7	14.5	800	41	2.3	800
BFG35	€	SOT223	NPN	18	150	750	1	4	11	800			
BFQ34T	€	SOT37	NPN	18	150	1000	1	3.7	19.5	300	43		
BFQ34	€	SOT122	NPN	18	150	1200	2.25	3.5	16.3	500	45	8	500
BFQ68		SOT122	NPN	18	300	1600	4.5	4	13	800	47		
BFQ136		SOT122	NPN	18	600	2500	9	4	12.5	800	52		
BFQ135		SOT172A2	NPN	19	150	1200	2.7	6.5	13.5	800			
BFQ270		SOT172	NPN	19	500	1600	10	6	10	1000			
BF747		SOT23	NPN	20			0.15	1.2	20	100			
BF748		TO-92	NPN	20	50		0.5	1.2	20	100			
MPSH10		TO-92	NPN	25	40		1	0.65					
PMBTH10		SOT23	NPN	25	40		1	0.65					
BFG16A	€	SOT223	NPN	25	150		1	1.5	10	500			
BFQ17		SOT89	NPN	25	150		1	1.2	6.5	800			
BFW16A		TO-39	NPN	25	150		1.5	1.2				6	
BFW17A		TO-39	NPN	25	150		1.5	1.1					
BFR94		SOT48	NPN	25	150	700	3.5	3.5	13.5	500	40	5	500
BFR95		TO-39	NPN	25	150	1000	0.7	3.5			43	9	200
BFR64		SOT48	NPN	25	200		3.5	1.2				6	200
BFR65		SOT48	NPN	25	400		5	1.2					
BFQ231		TO-92	NPN	65	300		0.675	1					
BFQ232		TO-126	NPN	65	300		3	1.4					
BFQ233		TO-39	NPN	65	300		3	1.4					
BFQ234		SOT172	NPN	65	300		3	1.4					
BFQ235		TO-202	NPN	65	300		3	1.4					
BFQ262		TO-126	NPN	65	400		5	1.4					
BFQ263		TO-39	NPN	65	400		5	1.4					
BFQ265		TO-202	NPN	65	400		5	1.4					
BFQ268		SOT172	NPN	65	400		5	1.4					
BFQ231A		TO-92	NPN	95	300		0.675	0.8					

typenumber	outline	polarity	V_{CEO} V	$I_{C\text{-max}}$ mA	V_o typ mV	P_{max} W	f_T GHz	G_{UM} typ dB	@ f MHz	ITO typ dBm	F typ dB	@ f MHz
BFQ232A	TO-126	NPN	95	300		3	1.2					
BFQ233A	TO-39	NPN	95	300		3	1.2					
BFQ235A	TO-202	NPN	95	300		3	1.2					
BFQ262A	TO-126	NPN	95	400		5	1.2					
BFQ263A	TO-39	NPN	95	400		5	1.2					
BFQ265A	TO-202	NPN	95	400		5	1.2					
BFQ23 €	SOT37	PNP	12	35	300	0.2	5	15	500	33	2.4	500
BFQ24	TO-72	PNP	12	35	300	0.15	5	15	500	33	2.4	500
BFT93 €	SOT23	PNP	12	35	300	0.3	5	16.5	500	33	2.4	500
BFG23 €	SOT103	PNP	12	35	400	0.2	5	14.5	800	35	3.7	800
BFQ23C	SOT173	PNP	12	50	400	0.35	5	16	800	35	3.7	800
BFG51 €	SOT103	PNP	15	25	150	0.2	5	16.5	800	26	3.4	800
BFQ51 €	SOT37	PNP	15	25	150	0.2	5	18	500	26	2.4	800
BFQ52	TO-72	PNP	15	25	150	0.15	5	17	500	26	2.7	500
BFT92 €	SOT23	PNP	15	25	150	0.3	5	18	500	26	2.7	500
BFQ51C	SOT173	PNP	15	30	150	0.25	5	16.5	800	27	3.5	800
BFQ149	SOT89	PNP	15	75		1	4.2	12	500		3.75	500
BFQ32M	TO-72	PNP	15	75		0.25	4.5	11	500		2.3	500
BFG32 €	SOT103	PNP	15	75	500	0.7	4.5	13.5	800	37	4.3	800
BFQ32 €	SOT37	PNP	15	75	500	0.5	4.2	14	500	37	3.75	500
BFQ32C	SOT173	PNP	15	100	500	0.5	4.5	14	800	38	4.3	800
BFG31 €	SOT223	PNP	15	100	600	1	5	12	800			
BFQ32S €	SOT37	PNP	15	100	600	0.7	4.5	10	800	39	4.3	800
BFQ54T €	SOT37	PNP	18	150	700	1	4.5	18	300			
BFG55 €	SOT223	PNP	18	150	750	1	4	11	800			
BFQ54 €	SOT122	PNP	18	150	900	2.25	4.5	16	500			
BFQ251	TO-92	PNP	65	300		0.675	1					
BFQ252	TO-126	PNP	65	300		3	1.3					
BFQ253	TO-39	PNP	65	300		3	1.3					
BFQ254	SOT172	PNP	65	300		3	1.3					
BFQ255	TO-202	PNP	65	300		3	1.3					
BFQ251A	TO-92	PNP	95	300		0.675	0.8					
BFQ252A	TO-126	PNP	95	300		3	1.2					
BFQ253A	TO-39	PNP	95	300		3	1.2					
BFQ255A	TO-202	PNP	95	300		3	1.2					

Bipolar LF power

typenumber		outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
TIP29		TO-220	NPN	1	40	15	1	4	75	30	80
BD825	Ⓔ	TO-202	NPN	1	45	40	0.15	2	250	8	45
TIP29A		TO-220AB	NPN	1	60	15	1	4	75	30	100
BD827	Ⓔ	TO-202	NPN	1	60	40	0.15	2	250	8	60
TIP29B		TO-220AB	NPN	1	80	15	1	4	75	30	120
BD829	Ⓔ	TO-202	NPN	1	80	40	0.15	2	250	8	100
TIP29C		TO-220AB	NPN	1	100	15	1	4	75	30	140
BD135	Ⓔ	TO-126	NPN	1.5	45	40	0.15	2	250	8	45
BD135-6	Ⓔ	TO-126	NPN	1.5	45	40	0.15	2	100	8	45
BD226	Ⓔ	TO-126	NPN	1.5	45	40	0.15	2	250	12.5	45
BD839	Ⓔ	TO-202	NPN	1.5	45	40	0.15	2	250	10	45
BD135-10	Ⓔ	TO-126	NPN	1.5	45	63	0.15	2	160	8	45
BD135-16	Ⓔ	TO-126	NPN	1.5	45	100	0.15	2	250	8	45
BD137	Ⓔ	TO-126	NPN	1.5	60	40	0.15	2	250	8	60
BD137-6	Ⓔ	TO-126	NPN	1.5	60	40	0.15	2	100	8	60
BD228	Ⓔ	TO-126	NPN	1.5	60	40	0.15	2	250	12.5	60
BD841	Ⓔ	TO-202	NPN	1.5	60	40	0.15	2	250	10	60
BD137-10	Ⓔ	TO-126	NPN	1.5	60	63	0.15	2	160	8	60
BD137-16	Ⓔ	TO-126	NPN	1.5	60	100	0.15	2	250	8	60
BD139	Ⓔ	TO-126	NPN	1.5	80	40	0.15	2	250	8	100
BD139-6	Ⓔ	TO-126	NPN	1.5	80	40	0.15	2	100	8	100
BD230	Ⓔ	TO-126	NPN	1.5	80	40	0.15	2	250	12.5	100
BD843	Ⓔ	TO-202	NPN	1.5	80	40	0.15	2	250	10	100
BD139-10	Ⓔ	TO-126	NPN	1.5	80	63	0.15	2	160	8	100
BD139-16	Ⓔ	TO-126	NPN	1.5	80	100	0.15	2	250	8	100
BD233		TO-126	NPN	2	45	40	0.15	2	250	25	45
BD235		TO-126	NPN	2	60	40	0.15	2	250	25	60
BD237		TO-126	NPN	2	80	40	0.15	2	250	25	100
BD329	Ⓔ	TO-126	NPN	3	20	85	0.5	1	375	15	32
BDS943		SOT223	NPN	3	22	25	0.01	5			22
BDS945		SOT223	NPN	3	32	25	0.01	5			32
TIP31		TO-220AB	NPN	3	40	10	3	4	50	40	80
TIP31F		SOT186	NPN	3	40	10	3	4		22	80
TIP29F		TO-220	NPN	3	40	15	1	4		19	80
BDS947		SOT223	NPN	3	45	25	0.01	5			45
BDS201		SOT223	NPN	3	45	30	3	2			60
BDS933		SOT223	NPN	3	45	40	0.15	2	250		45
BD131	Ⓔ	TO-126	NPN	3	45	40	0.5	12		15	70
BD933		TO-220AB	NPN	3	45	40	0.15	2	250	30	45
BD933F		SOT186	NPN	3	45	40	0.15	2	250	19	45
TIP31A		TO-220AB	NPN	3	60	10	3	4	50	40	100
TIP31AF		SOT186	NPN	3	60	10	3	4		22	100
TIP29AF		TO-220	NPN	3	60	15	1	4		19	100
BDS203		SOT223	NPN	3	60	30	3	2			60
BDS935		SOT223	NPN	3	60	40	0.15	2	250		60
BDS949		SOT223	NPN	3	60	40	0.5	4			60
BD935		TO-220AB	NPN	3	60	40	0.15	2	250	30	60
BD935F		SOT186	NPN	3	60	40	0.15	2	250	19	60
TIP31B		TO-220AB	NPN	3	80	10	3	4	50	40	120
TIP31BF		SOT186	NPN	3	80	10	3	4		22	120
TIP29BF		TO-220	NPN	3	80	15	1	4		19	120

LF Transistors (cont.)

Bipolar LF power

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
BDS77	SOT223	NPN	3	80	30	3	2			100
BDS937	SOT223	NPN	3	80	40	0.15	2	250		100
BDS951	SOT223	NPN	3	80	40	0.5	4			80
BD937	TO-220AB	NPN	3	80	40	0.15	2	250	30	100
BD937F	SOT186	NPN	3	80	40	0.15	2	250	19	100
TIP31C	TO-220AB	NPN	3	100	10	3	4	50	40	140
TIP31CF	SOT186	NPN	3	100	10	3	4		22	140
TIP29CF	TO-220	NPN	3	100	15	1	4		19	140
BDS939	SOT223	NPN	3	100	40	0.15	2	250		120
BDS953	SOT223	NPN	3	100	40	0.5	4			100
BD939	TO-220AB	NPN	3	100	40	0.15	2	250	30	120
BD939F	SOT186	NPN	3	100	40	0.15	2	250	19	120
BDS941	SOT223	NPN	3	120	40	0.15	2	250		140
BDS955	SOT223	NPN	3	120	40	0.5	4			120
BD941	TO-220AB	NPN	3	120	40	0.15	2	250	30	140
BD941F	SOT186	NPN	3	120	40	0.15	2	250	19	140
BD433	TO-126	NPN	4	22	50	2	1	475	36	22
BD435	TO-126	NPN	4	32	50	2	1	475	36	32
BD437	TO-126	NPN	4	45	40	2	1	375	36	45
BD719	TO-126	NPN	4	60	20	2	4		36	60
BD441	TO-126	NPN	4	80	15	2	1		36	80
BD721	TO-126	NPN	4	80	20	2	4		36	80
BD723	TO-126	NPN	4	100	20	2	4		36	100
BD725	TO-126	NPN	4	120	20	2	4		36	120
BD943	TO-220AB	NPN	5	22	85	0.5	1	475	40	22
BD943F	SOT186	NPN	5	22	85	0.5	1	475	22	22
BD945	TO-220AB	NPN	5	32	85	0.5	1	475	40	32
BD945F	SOT186	NPN	5	32	85	0.5	1	475	22	32
BD947	TO-220AB	NPN	5	45	85	0.5	1	475	40	45
BD947F	SOT186	NPN	5	45	85	0.5	1	475	22	45
BD949	TO-220AB	NPN	5	60	40	0.5	4		40	60
BD949F	SOT186	NPN	5	60	40	0.5	4		22	60
BDX35 €	TO-126	NPN	5	60	45	0.5	10	450	15	100
BDX36 €	TO-126	NPN	5	60	45	0.5	10	450	15	120
BD951	TO-220AB	NPN	5	80	40	0.5	4		40	80
BD951F	SOT186	NPN	5	80	40	0.5	4		22	80
BDX37 €	TO-126	NPN	5	80	45	0.5	10	450	15	120
BD953	TO-220AB	NPN	5	100	40	0.5	4		40	100
BD953F	SOT186	NPN	5	100	40	0.5	4		22	100
BD955	TO-220AB	NPN	5	120	40	0.5	4		40	120
BD955F	SOT186	NPN	5	120	40	0.5	4		22	120
TIP41	TO-220AB	NPN	6	40	15	3	4	75	65	80
TIP41F	SOT186	NPN	6	40	15	3	4		32	80
TIP41A	TO-220AB	NPN	6	60	15	3	4	75	65	100
TIP41AF	SOT186	NPN	6	60	15	3	4		32	100
TIP41B	TO-220AB	NPN	6	80	15	3	4	75	65	120
TIP41BF	SOT186	NPN	6	80	15	3	4		32	120
TIP41C	TO-220AB	NPN	6	100	15	3	4	75	65	140
TIP41CF	SOT186	NPN	6	100	15	3	4		32	140
BD201	TO-220	NPN	8	45	30	3	2		60	60
BD201F	SOT186	NPN	8	45	30	3	2		32	60

Bipolar LF power

LF Transistors (cont.)

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
BD203	TO-220	NPN	8	60	30	2	2		60	60
BD203F	SOT186	NPN	8	60	30	1	2		32	60
BDX77	TO-220	NPN	8	80	30	2	2		60	100
BDX77F	SOT186	NPN	8	80	30	2	2		32	100
TIP33	SOT93	NPN	10	40	20	3	4	100	80	80
BDT91	TO-220AB	NPN	10	60	20	4	4	200	90	60
BDT91F	SOT186	NPN	10	60	20	4	4	200	32	60
BDV91	SOT93	NPN	10	60	20	4	4		100	60
TIP3055T	TO-220AB	NPN	10	60	20	4	4	70	75	70
TIP33A	SOT93	NPN	10	60	20	3	4	100	80	100
BDT93	TO-220AB	NPN	10	80	20	4	4	200	90	80
BDT93F	SOT186	NPN	10	80	20	4	4	200	32	80
BDV93	SOT93	NPN	10	80	20	4	4		100	80
TIP33B	SOT93	NPN	10	80	20	3	4	100	80	120
BDT95	TO-220AB	NPN	10	100	20	4	4	200	90	100
BDT95F	SOT186	NPN	10	100	20	4	4	200	32	100
BDV95	SOT93	NPN	10	100	20	4	4		100	100
TIP33C	SOT93	NPN	10	100	20	3	4	100	80	140
BDT81F	SOT186	NPN	15	60					36	60
TIP3055	SOT93	NPN	15	60	20	4	4	70	100	100
BDT81	TO-220AB	NPN	15	60	40	5	4		125	60
BDT83	TO-220AB	NPN	15	80	40	5	4		125	80
BDT83F	SOT186	NPN	15	80	40				36	80
BDT85F	SOT186	NPN	15	100					36	100
BDT85	TO-220AB	NPN	15	100	40	5	4		125	100
BDT87F	SOT186	NPN	15	120					36	120
BDT87	TO-220AB	NPN	15	120	40	5	4		125	120
TIP30	TO-220AB	PNP	1	40	15	1	4	75	30	80
BD826 €	TO-202	PNP	1	45	40	0.15	2	250	8	45
TIP30A	TO-220AB	PNP	1	60	15	1	4	75	30	100
BD828 €	TO-202	PNP	1	60	40	0.15	2	250	8	60
TIP30B	TO-220AB	PNP	1	80	15	1	4	75	30	120
BD830 €	TO-202	PNP	1	80	40	0.15	2	250	8	100
TIP30C	TO-220AB	PNP	1	100	15	1	4	75	30	140
BD136 €	TO-126	PNP	1.5	45	40	0.15	2	250	8	45
BD136-6 €	TO-126	PNP	1.5	45	40	0.15	2	100	8	45
BD227 €	TO-126	PNP	1.5	45	40	0.15	2	250	12.5	45
BD840 €	TO-202	PNP	1.5	45	40	0.15	2	250	10	45
BD136-10 €	TO-126	PNP	1.5	45	63	0.15	2	160	8	45
BD136-16 €	TO-126	PNP	1.5	45	100	0.15	2	250	8	45
BD138 €	TO-126	PNP	1.5	60	40	0.15	2	250	8	60
BD138-6 €	TO-126	PNP	1.5	60	40	0.15	2	100	8	60
BD229 €	TO-126	PNP	1.5	60	40	0.15	2	250	12.5	60
BD842	TO-202	PNP	1.5	60	40	0.15	2	250	10	60
BD138-10 €	TO-126	PNP	1.5	60	63	0.15	2	160	8	60
BD138-16 €	TO-126	PNP	1.5	60	100	0.15	2	250	8	60
BD140 €	TO-126	PNP	1.5	80	40	0.15	2	250	8	100
BD140-6 €	TO-126	PNP	1.5	80	40	0.15	2	100	8	100
BD231 €	TO-126	PNP	1.5	80	40	0.15	2	250	12.5	100
BD844 €	TO-202	PNP	1.5	80	40	0.15	2	250	10	100
BD140-10 €	TO-126	PNP	1.5	80	63	0.15	2	160	8	100

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
BD140-16 ●	TO-126	PNP	1.5	80	100	0.15	2	250	8	100
BD234	TO-126	PNP	2	45	40	0.15	2	250	25	45
BD236	TO-126	PNP	2	60	40	0.15	2	250	25	60
BD238	TO-126	PNP	2	80	40	0.15	2	250	25	100
BD330 ●	TO-126	PNP	3	20	85	0.5	1	375	15	32
BDS944	SOT223	PNP	3	22	25	0.01	5			22
BDS946	SOT223	PNP	3	32	25	0.01	5			32
TIP32	TO-220AB	PNP	3	40	10	3	4	50	40	80
TIP32F	SOT186	PNP	3	40	10	3	4		22	80
TIP30F	TO-220	PNP	3	40	15	1	4		19	80
BDS948	SOT223	PNP	3	45	25	0.01	5			45
BDS202	SOT223	PNP	3	45	30	3	2			60
BDS934	SOT223	PNP	3	45	40	0.15	2	250		45
BD132 ●	TO-126	PNP	3	45	40	0.5	12		15	45
BD934	TO-220AB	PNP	3	45	40	0.15	2	250	30	45
BD934F	SOT186	PNP	3	45	40	0.15	2	250	19	45
TIP32A	TO-220AB	PNP	3	60	10	3	4	50	40	100
TIP32AF	SOT186	PNP	3	60	10	3	4		22	100
TIP30AF	TO-220	PNP	3	60	15	1	4		19	100
BDS204	SOT223	PNP	3	60	30	3	2			60
BDS936	SOT223	PNP	3	60	40	0.15	2	250		60
BDS950	SOT223	PNP	3	60	40	0.5	4			60
BD936	TO-220AB	PNP	3	60	40	0.15	2	250	30	60
BD936F	SOT186	PNP	3	60	40	0.15	2	250	19	60
TIP32B	TO-220AB	PNP	3	80	10	3	4	50	40	120
TIP32BF	SOT186	PNP	3	80	10	3	4		22	120
TIP30BF	TO-220	PNP	3	80	15	1	4		19	120
BDS78	SOT223	PNP	3	80	30	3	2			100
BDS938	SOT223	PNP	3	80	40	0.15	2	250		100
BDS952	SOT223	PNP	3	80	40	0.5	4			80
BD938	TO-220AB	PNP	3	80	40	0.15	2	250	30	100
BD938F	SOT186	PNP	3	80	40	0.15	2	250	19	100
TIP32C	TO-220AB	PNP	3	100	10	3	4	50	40	140
TIP32CF	SOT186	PNP	3	100	10	3	4		22	140
TIP30CF	TO-220	PNP	3	100	15	1	4		19	140
BDS940	SOT223	PNP	3	100	40	0.15	2	250		120
BDS954	SOT223	PNP	3	100	40	0.5	4			100
BD940	TO-220AB	PNP	3	100	40	0.15	2	250	30	120
BD940F	SOT186	PNP	3	100	40	0.15	2	250	19	120
BDS942	SOT223	PNP	3	120	40	0.15	2	250		140
BDS956	SOT223	PNP	3	120	40	0.5	4			120
BD942	TO-220AB	PNP	3	120	40	0.15	2	250	30	140
BD942F	SOT186	PNP	3	120	40	0.15	2	250	19	140
BD434	TO-126	PNP	4	22	50	2	1	475	36	22
BD436	TO-126	PNP	4	32	50	2	1	475	36	32
BD438	TO-126	PNP	4	45	40	2	1	375	36	45
BD720	TO-126	PNP	4	60	20	2	4		36	60
BD440	TO-126	PNP	4	60	25	2	1		36	60
BD442	TO-126	PNP	4	80	15	2	1		36	80
BD722	TO-126	PNP	4	80	20	2	4		36	80
BD724	TO-126	PNP	4	100	20	2	4		36	100

Bipolar LF power

LF Transistors (cont.)

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
BD726	TO-126	PNP	4	120	20	2	4		36	120
BD944	TO-220AB	PNP	5	22	85	0.5	1	475	40	22
BD944F	SOT186	PNP	5	22	85	0.5	1	475	22	22
BD946	TO-220AB	PNP	5	32	85	0.5	1	475	40	32
BD946F	SOT186	PNP	5	32	85	0.5	1	475	22	32
BD948	TO-220AB	PNP	5	45	85	0.5	1	475	40	45
BD948F	SOT186	PNP	5	45	85	0.5	1	475	22	45
BD950	TO-220AB	PNP	5	60	40	0.5	4		40	60
BD950F	SOT186	PNP	5	60	40	0.5	4		22	60
BD952	TO-220AB	PNP	5	80	40	0.5	4		40	80
BD952F	SOT186	PNP	5	80	40	0.5	4		22	80
BD954	TO-220AB	PNP	5	100	40	0.5	4		40	100
BD954F	SOT186	PNP	5	100	40	0.5	4		22	100
BD956	TO-220AB	PNP	5	120	40	0.5	4		40	120
BD956F	SOT186	PNP	5	120	40	0.5	4		22	120
TIP42	TO-220AB	PNP	6	40	15	3	4	75	65	80
TIP42F	SOT186	PNP	6	40	15	3	4		32	80
TIP42A	TO-220AB	PNP	6	60	15	3	4	75	65	100
TIP42AF	SOT186	PNP	6	60	15	3	4		32	100
TIP42B	TO-220AB	PNP	6	80	15	3	4	75	65	120
TIP42BF	SOT186	PNP	6	80	15	3	4		32	120
TIP42C	TO-220AB	PNP	6	100	15	3	4	75	65	140
TIP42CF	SOT186	PNP	6	100	15	3	4		32	140
BD202	TO-220	PNP	8	45	30	3	2		60	60
BD202F	SOT186	PNP	8	45	30	3	2		32	60
BD204	TO-220	PNP	8	60	30	2	2		60	60
BD204F	SOT186	PNP	8	60	30	2	2		32	60
BDX78	TO-220	PNP	8	80	30	2	2		60	100
BDX78F	SOT186	PNP	8	80	30	2	2		32	100
TIP34	SOT93	PNP	10	40	20	3	4	100	80	80
BDT92	TO-220AB	PNP	10	60	20	4	4	200	90	60
BDT92F	SOT186	PNP	10	60	20	4	4	200	32	60
BDV92	SOT93	PNP	10	60	20	4	4		100	60
TIP2955T	TO-220AB	PNP	10	60	20	4	4	70	75	70
TIP34A	SOT93	PNP	10	60	20	3	4	100	80	100
BDT94	TO-220AB	PNP	10	80	20	4	4	200	90	80
BDT94F	SOT186	PNP	10	80	20	4	4	200	32	80
BDV94	SOT93	PNP	10	80	20	4	4		100	80
TIP34B	SOT93	PNP	10	80	20	3	4	100	80	120
BDT96	TO-220AB	PNP	10	100	20	4	4	200	90	100
BDT96F	SOT186	PNP	10	100	20	4	4	200	32	100
BDV96	SOT93	PNP	10	100	20	4	4		100	100
TIP34C	SOT93	PNP	10	100	20	3	4	100	80	140
BDT82F	SOT186	PNP	15	60					36	60
TIP2955	SOT93	PNP	15	60	20	4	4	70	100	100
BDT82	TO-220AB	PNP	15	60	40	5	4		125	60
BDT84F	SOT186	PNP	15	80					36	80
BDT84	TO-220AB	PNP	15	80	40	5	4		125	80
BDT86F	SOT186	PNP	15	100					36	100
BDT86	TO-220AB	PNP	15	100	40	5	4		125	100

Bipolar LF power

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	h_{FE} max	P_{max} W	V_{CBO} V
BDT88F	SOT186	PNP	15	120					36	120
BDT88	TO-220AB	PNP	15	120	40	5	4		125	120

Bipolar LF power

Darlington

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	P_{max} W	V_{CBO} V	V-CEsat max V	@ I_C A	@ I_B A
BDX42 €	TO-126	NPN	1	45	2000	0.5	10	5	60	1.6	1	0.004
BDX43 €	TO-126	NPN	1	60	2000	0.5	10	5	80	1.6	1	0.001
BDX44 €	TO-126	NPN	1	80	2000	0.5	10	5	90	1.6	1	0.004
BDS643	SOT223	NPN	3	45	1000	3	3		60	2	3	0.012
BDS61	SOT223	NPN	3	60	750	1.5	3		60	2.5	1.5	0.006
BDS645	SOT223	NPN	3	60	1000	3	3		80	2	3	0.012
BDS61A	SOT223	NPN	3	80	750	1.5	3		80	2.5	1.5	0.006
BDS647	SOT223	NPN	3	80	1000	3	3		100	2	3	0.012
BDS61B	SOT223	NPN	3	100	750	1.5	3		100	2.5	1.5	0.006
BDS649	SOT223	NPN	3	100	1000	3	3		120	2	3	0.012
BDS61C	SOT223	NPN	3	120	750	1.5	3		120	2.5	1.5	0.006
BDS651	SOT223	NPN	3	120	1000	3	3		140	2	3	0.012
BD675	TO-126	NPN	4	45	750	1.5	3	40	60	2.5	2	0.006
BD675A	TO-126	NPN	4	45	750	2	3	40	45	2.8	2	0.04
TIP110	TO-220AB	NPN	4	60	500	2	4	50	60	2.5	2	0.008
BDT61	TO-220AB	NPN	4	60	750	1.5	3	50	60	2.5	1.5	0.006
BDT61F	SOT186	NPN	4	60	750	1.5	3	25	60	2.5	1.5	0.006
BD677	TO-126	NPN	4	60	750	1.5	3	40	80	2.5	1.5	0.006
BD677A	TO-126	NPN	4	60	750	2	3	40	60	2.8	2	0.04
TIP111	TO-220AB	NPN	4	80	500	2	4	50	80	2.5	2	0.008
BDT61A	TO-220AB	NPN	4	80	750	1.5	3	50	80	2.5	1.5	0.006
BDT61AF	SOT186	NPN	4	80	750	1.5	3	25	80	2.5	1.5	0.006
BD679	TO-126	NPN	4	80	750	1.5	3	40	100	2.5	1.5	0.006
BD679A	TO-126	NPN	4	80	750	2	3	40	80	2.8	2	0.04
TIP112	TO-220AB	NPN	4	100	500	2	4	50	100	2.5	2	0.008
BDT61B	TO-220AB	NPN	4	100	750	1.5	3	50	100	2.5	1.5	0.006
BDT61BF	SOT186	NPN	4	100	750	1.5	3	25	100	2.5	1.5	0.006
BD681	TO-126	NPN	4	100	750	1.5	3	40	120	2.5	1.5	0.006
BDT61C	TO-220AB	NPN	4	120	750	1.5	3	50	120	2.5	1.5	0.006
BDT61CF	SOT186	NPN	4	120	750	1.5	3	25	120	2.5	1.5	0.006
BD683	TO-126	NPN	4	120	750	1.5	3	40	140	2.5	1.5	0.006
TIP120	TO-220AB	NPN	5	60	1000	3	3	65	60	2	3	0.012
TIP121	TO-220AB	NPN	5	80	1000	3	3	65	80	2	3	0.012
TIP122	TO-220AB	NPN	5	100	1000	3	3	65	100	2	3	0.012
BD331	SOT82	NPN	6	60	750	3	3	60	60	2	3	0.012
BD331S	SOT195	NPN	6	60	750	3	3	60	60	2	3	0.012
BD333	SOT82	NPN	6	80	750	3	3	60	80	2	3	0.012
BD335	SOT82	NPN	6	100	750	3	3	60	100	2	3	0.012
BD337	SOT82	NPN	6	120	750	3	3	60	120	2	3	0.012
BD643	TO-220AB	NPN	8	45	750	3	3	62.5	60	2.5	5	0.05
BD643F	SOT186	NPN	8	45	750	4	3	32	60	2.5	5	0.05
BD645 €	TO-220AB	NPN	8	60	750	3	3	62.5	80	2.5	5	0.05
BD645F	SOT186	NPN	8	60	750	3	3	32	80	2.5	5	0.05
TIP130	TO-220AB	NPN	8	60	1000	4	4	70	60	2	4	0.016
BD647 €	TO-220AB	NPN	8	80	750	3	3	62.5	100	2.5	5	0.05
BD647F	SOT186	NPN	8	80	750	3	3	32	100	2.5	5	0.05
TIP131	TO-220AB	NPN	8	80	1000	4	4	70	80	2	4	0.016
BD649 €	TO-220AB	NPN	8	100	750	3	3	62.5	120	2.5	5	0.05
BD649F	SOT186	NPN	8	100	750	3	3	32	120	2.5	5	0.05
TIP132	TO-220AB	NPN	8	100	1000	4	4	70	100	2	4	0.016
BD651 €	TO-220AB	NPN	8	120	750	3	3	62.5	140	2.5	5	0.05

Darlington (cont.)

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	P_{max} W	V_{CBO} V	V-CEsat max V	@ I_C A	@ I_B A
BD651F	SOT186	NPN	8	120	750	3	3	32	140	2.5	5	0.05
BDT63	TO-220AB	NPN	10	60	1000	3	3	90	60	2	3	0.012
BDT63F	SOT186	NPN	10	60	1000	3	3	36	60	2	3	0.012
TIP140	SOT93	NPN	10	60	1000	5	4	125	60	2	5	0.01
BDT63A	TO-220AB	NPN	10	80	1000	3	3	90	80	2	3	0.012
BDT63AF	SOT186	NPN	10	80	1000	3	3	36	80	2	3	0.012
TIP141	SOT93	NPN	10	80	1000	5	4	125	80	2	5	0.01
BDT63B	TO-220AB	NPN	10	100	1000	3	3	90	100	2	3	0.012
BDT63BF	SOT186	NPN	10	100	1000	3	3	36	100	2	3	0.012
TIP142	SOT93	NPN	10	100	1000	5	4	125	100	2	5	0.01
BDT63C	TO-220AB	NPN	10	120	1000	3	3	90	120	2	3	0.012
BDT63CF	SOT186	NPN	10	120	1000	3	3	36	120	2	3	0.012
BDT65	TO-220AB	NPN	12	60	1000	5	4	125	60	2	5	0.02
BDT65F	SOT186	NPN	12	60	1000	5	4	39	60	2	5	0.02
BDV65	SOT93	NPN	12	60	1000	5	4	125	60	2	5	0.02
BDV65F	SOT199	NPN	12	60	1000	5	4	50	60	2	5	0.02
BDT65A	TO-220AB	NPN	12	80	1000	5	4	125	80	2	5	0.02
BDT65AF	SOT186	NPN	12	80	1000	5	4	39	80	2	5	0.02
BDV65A	SOT93	NPN	12	80	1000	5	4	125	80	2	5	0.02
BDV65AF	SOT199	NPN	12	80	1000	5	4	50	80	2	5	0.02
BDT65B	TO-220AB	NPN	12	100	1000	5	4	125	100	2	5	0.02
BDT65BF	SOT186	NPN	12	100	1000	5	4	39	100	2	5	0.02
BDV65B	SOT93	NPN	12	100	1000	5	4	125	100	2	5	0.02
BDV65BF	SOT199	NPN	12	100	1000	5	4	50	100	2	5	0.02
BDT65C	TO-220AB	NPN	12	120	1000	5	4	125	120	2	5	0.02
BDT65CF	SOT186	NPN	12	120	1000	5	4	39	120	2	5	0.02
BDV65C	SOT93	NPN	12	120	1000	5	4	125	120	2	5	0.02
BDV65CF	SOT199	NPN	12	120	1000	5	4	50	120	2	5	0.02
BDV67A	SOT93	NPN	16	80	1000	10	3	200	100	2	10	0.04
BDV67AF	SOT199	NPN	16	80	1000	10	3	60	100	2	10	0.04
BDV67B	SOT93	NPN	16	100	1000	10	3	200	120	2	10	0.04
BDV67BF	SOT199	NPN	16	100	1000	10	3	60	120	2	10	0.04
BDV67C	SOT93	NPN	16	120	1000	10	3	200	140	2	10	0.04
BDV67CF	SOT199	NPN	16	120	1000	10	3	60	140	2	10	0.04
BDV67D	SOT93	NPN	16	150	1000	10	3	200	160	2	10	0.04
BDV67DF	SOT199	NPN	16	150	1000	10	3	60	160	2	10	0.04
BDX45 €	TO-126	PNP	1	45	2000	0.5	10	5	60	1.6	1	0.004
BDX46 €	TO-126	PNP	1	60	2000	0.5	10	5	80	1.6	1	0.001
BDX47 €	TO-126	PNP	1	80	2000	0.5	10	5	90	1.6	1	0.004
BDS644	SOT223	PNP	3	45	1000	3	3		45	2	3	0.012
BDS60	SOT223	PNP	3	60	750	1.5	3		60	2.5	1.5	0.006
BDS646	SOT223	PNP	3	60	1000	3	3		60	2	3	0.012
BDS60A	SOT223	PNP	3	80	750	1.5	3		80	2.5	1.5	0.006
BDS648	SOT223	PNP	3	80	1000	3	3		80	2	3	0.012
BDS60B	SOT223	PNP	3	100	750	1.5	3		100	2.5	1.5	0.006
BDS650	SOT223	PNP	3	100	1000	3	3		100	2	3	0.012
BDS60C	SOT223	PNP	3	120	750	1.5	3		120	2.5	1.5	0.006
BDS652	SOT223	PNP	3	120	1000	3	3		120	2	3	0.012
BD676	TO-126	PNP	4	45	750	1.5	3	40	45	2.5	2	0.006
BD676A	TO-126	PNP	4	45	750	2	3	40	45	2.8	2	0.04
TIP115	TO-220AB	PNP	4	60	500	2	4	50	60	2.5	2	0.008

Bipolar LF power

Darlington (cont.)

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	P_{max} W	V_{CBO} V	V-CEsat max V	@ I_C A	@ I_B A
BDT60	TO-220AB	PNP	4	60	750	1.5	3	50	60	2.5	1.5	0.006
BDT60F	SOT186	PNP	4	60	750	1.5	3	25	60	2.5	1.5	0.006
BD678	TO-126	PNP	4	60	750	1.5	3	40	60	2.5	1.5	0.006
BD678A	TO-126	PNP	4	60	750	2	3	40	60	2.8	2	0.04
TIP116	TO-220AB	PNP	4	80	500	2	4	50	80	2.5	2	0.008
BDT60A	TO-220AB	PNP	4	80	750	1.5	3	50	80	2.5	1.5	0.006
BDT60AF	SOT186	PNP	4	80	750	1.5	3	25	80	2.5	1.5	0.006
BD680	TO-126	PNP	4	80	750	1.5	3	40	80	2.5	1.5	0.006
BD680A	TO-126	PNP	4	80	750	2	3	40	80	2.8	2	0.04
TIP117	TO-220AB	PNP	4	100	500	2	4	50	100	2.5	2	0.008
BDT60B	TO-220AB	PNP	4	100	750	1.5	3	50	100	2.5	1.5	0.006
BDT60BF	SOT186	PNP	4	100	750	1.5	3	25	100	2.5	1.5	0.006
BD682	TO-126	PNP	4	100	750	1.5	3	40	100	2.5	1.5	0.006
BDT60C	TO-220AB	PNP	4	120	750	1.5	3	50	120	2.5	1.5	0.006
BDT60CF	SOT186	PNP	4	120	750	1.5	3	25	120	2.5	1.5	0.006
BD684	TO-126	PNP	4	120	750	1.5	3	40	120	2.5	1.5	0.006
TIP125	TO-220AB	PNP	5	60	1000	3	3	65	60	2	3	0.012
TIP126	TO-220AB	PNP	5	80	1000	3	3	65	80	2	3	0.012
TIP127	TO-220AB	PNP	5	100	1000	3	3	65	100	2	3	0.012
BD332	SOT82	PNP	6	60	750	3	3	60	60	2	3	0.012
BD334	SOT82	PNP	6	80	750	3	3	60	80	2	3	0.012
BD336	SOT82	PNP	6	100	750	3	3	60	100	2	3	0.012
BD338	SOT82	PNP	6	120	750	3	3	60	120	2	3	0.012
BD644	TO-220AB	PNP	8	45	750	3	3	62.5	45	2.5	5	0.05
BD644F	SOT186	PNP	8	45	750	4	3	32	45	2.5	5	0.05
BD646 €	TO-220AB	PNP	8	60	750	3	3	62.5	60	2.5	5	0.05
BD646F	SOT186	PNP	8	60	750	3	3	32	60	2.5	5	0.05
TIP135	TO-220AB	PNP	8	60	1000	4	4	70	60	2	4	0.016
BD648 €	TO-220AB	PNP	8	80	750	3	3	62.5	80	2.5	5	0.05
BD648F	SOT186	PNP	8	80	750	3	3	32	80	2.5	5	0.05
TIP136	TO-220AB	PNP	8	80	1000	4	4	70	80	2	4	0.016
BD650 €	TO-220AB	PNP	8	100	750	3	3	62.5	100	2.5	5	0.05
BD650F	SOT186	PNP	8	100	750	3	3	32	100	2.5	5	0.05
TIP137	TO-220AB	PNP	8	100	1000	4	4	70	100	2	4	0.016
BD652 €	TO-220AB	PNP	8	120	750	3	3	62.5	120	2.5	5	0.05
BD652F	SOT186	PNP	8	120	750	3	3	32	120	2.5	5	0.05
BDT62	TO-220AB	PNP	10	60	1000	3	3	90	60	2	3	0.012
BDT62F	SOT186	PNP	10	60	1000	3	3	36	60	2	3	0.012
TIP145	SOT93	PNP	10	60	1000	5	4	125	60	2	5	0.01
BDT62A	TO-220AB	PNP	10	80	1000	3	3	90	80	2	3	0.012
BDT62AF	SOT186	PNP	10	80	1000	3	3	36	80	2	3	0.012
TIP146	SOT93	PNP	10	80	1000	5	4	125	80	2	5	0.01
BDT62B	TO-220AB	PNP	10	100	1000	3	3	90	100	2	3	0.012
BDT62BF	SOT186	PNP	10	100	1000	3	3	36	100	2	3	0.012
TIP147	SOT93	PNP	10	100	1000	5	4	125	100	2	5	0.01
BDT62C	TO-220AB	PNP	10	120	1000	3	3	90	120	2	3	0.012
BDT62CF	SOT186	PNP	10	120	1000	3	3	36	120	2	3	0.012
BDT64	TO-220AB	PNP	12	60	1000	5	4	125	60	2	5	0.02
BDT64F	SOT186	PNP	12	60	1000	5	4	39	60	2	5	0.02
BDV64	SOT93	PNP	12	60	1000	5	4	125	60	2	5	0.02
BDV64F	SOT199	PNP	12	60	1000	5	4	50	60	2	5	0.02

Darlington (cont.)

typenumber	outline	polarity	$I_{C\text{-max}}$ A	V_{CEO} V	h_{FE} min	@ I_C A	@ V_{CE} V	P_{max} W	V_{CBO} V	V-CEsat max V	@ I_C A	@ I_B A
BDT64A	TO-220AB	PNP	12	80	1000	5	4	125	80	2	5	0.02
BDT64AF	SOT186	PNP	12	80	1000	5	4	39	80	2	5	0.02
BDV64A	SOT93	PNP	12	80	1000	5	4	125	80	2	5	0.02
BDV64AF	SOT199	PNP	12	80	1000	5	4	50	80	2	5	0.02
BDT64B	TO-220AB	PNP	12	100	1000	5	4	125	100	2	5	0.02
BDT64BF	SOT186	PNP	12	100	1000	5	4	39	100	2	5	0.02
BDV64B	SOT93	PNP	12	100	1000	5	4	125	100	2	5	0.02
BDV64BF	SOT199	PNP	12	100	1000	5	4	50	100	2	5	0.02
BDT64C	TO-220AB	PNP	12	120	1000	5	4	125	120	2	5	0.02
BDT64CF	SOT186	PNP	12	120	1000	5	4	39	120	2	5	0.02
BDV64C	SOT93	PNP	12	120	1000	5	4	125	120	2	5	0.02
BDV64CF	SOT199	PNP	12	120	1000	5	4	50	120	2	5	0.02
BDV66A	SOT93	PNP	16	80	1000	10	3	175	100	2	10	0.04
BDV66AF	SOT199	PNP	16	80	1000	10	3	60	100	2	10	0.04
BDV66B	SOT93	PNP	16	100	1000	10	3	175	120	2	10	0.04
BDV66BF	SOT199	PNP	16	100	1000	10	3	60	120	2	10	0.04
BDV66C	SOT93	PNP	16	120	1000	10	3	175	140	2	10	0.04
BDV66CF	SOT199	PNP	16	120	1000	10	3	60	140	2	10	0.04
BDV66D	SOT93	PNP	16	150	1000	10	3	175	160	2	10	0.04
BDV66DF	SOT199	PNP	16	150	1000	10	3	60	160	2	10	0.04

Bipolar LF power

High voltage

typenumber	outline	V_{CEO} V	$I_{C\text{-max}}$ A	h_{FE} min	@ V_{CE} V	@ I_C A	V_{CESM} V	P_{max} W	V-CEsat max V	@ I_C A	@ I_B A
BUV26	TO-220AB	90	14				180	65	1.5	12	1.2
BUV26F	SOT186	90	14				180	18	1.5	12	1.2
BUV26A	TO-220AB	100	14				200	65	1	10	1
BUV26AF	SOT186	100	14				200	18	1	10	1
BUV27F	SOT186	120	12				240	18	1.5	12	1.2
BUV27	TO-220AB	120	15				240	65	1.5	8	0.8
BU407F	SOT186	150	7				330	18	1	5	0.5
BU407	TO-220AB	150	7	50			330	60	1	5	0.5
BU807	TO-220AB	150	8					60	1.5	5	0.05
BU807F	SOT186	150	8					28	1.5	5	0.05
BUV27AF	SOT186	150	12				300	18	1	10	1
BUV27A	TO-220AB	150	15				300	65	1.5	7	0.7
BF457 €	TO-126	160	0.1	26	10	0.03		6	1	0.03	0.006
BF857 €	TO-202	160	0.1	26	10	0.03		6	1	0.03	0.006
BF591 €	TO-202	170	0.15	30	5	0.02		1.3			
BU806A	TO-220AB	180	8					60	1.5	5	0.05
BU806AF	SOT186	180	8					28	1.5	5	0.05
BU406F	SOT186	200	7				400	18	1	5	0.5
BU406	TO-220AB	200	7	50			400	60	1	5	0.5
BU806	TO-220AB	200	8					60	1.5	5	0.05
BU806F	SOT186	200	8					28	1.5	5	0.05
BUV28	TO-220AB	200	12				400	65	1.5	6	0.6
BUV28F	SOT186	200	12				400	18	1.5	6	0.6
BF593 €	TO-202	210	0.15	30	5	0.02		1.3			
BUV28A	TO-220AB	225	12				450	65	1.5	4	0.4
BUV28AF	SOT186	225	12				450	18	1.5	4	0.4
BF469 €	TO-126	250	0.05	50	20	0.025		1.8			
BF470 €	TO-126	250	0.05	50	20	0.025		1.8			
BF583 €	TO-202	250	0.05	50	20	0.025		5			
BF584 €	TO-202	250	0.05	50	20	0.025		5	0.5	0.02	0.002
BF869 €	TO-202	250	0.05	50	20	0.025		5			
BF870 €	TO-202	250	0.05	50	20	0.025		5			
BF419 €	TO-126	250	0.1					6	11	0.2	0.02
BF819 €	TO-202	250	0.1					6	11	0.2	0.02
BF458 €	TO-126	250	0.1	26	10	0.03		6	1	0.03	0.006
BF858 €	TO-202	250	0.1	26	10	0.03		6	1	0.03	0.006
BF471 €	TO-126	300	0.05	50	20	0.025		1.8			
BF472 €	TO-126	300	0.05	50	20	0.025		1.8			
BF585 €	TO-202	300	0.05	50	20	0.025		5			
BF586 €	TO-202	300	0.05	50	20	0.025		5	0.5	0.02	0.002
BF871 €	TO-202	300	0.05	50	20	0.025		5			
BF872 €	TO-202	300	0.05	50	20	0.025		5			
BF459 €	TO-126	300	0.1	26	10	0.03		6	1	0.03	0.006
BF859 €	TO-202	300	0.1	26	10	0.03		6	1	0.03	0.006
PH13002	TO-126	300	1.5	8	2	0.5	600	1.25	1	1	0.25
BUX99	TO-126	300	1.5	16	5	0.05	730	28	2	0.2	0.02
BU304F	SOT186	300	4	8		2	600	18	0.6	2	0.5
MJE13004	TO-220AB	300	4	8	5	2	600	75	0.6	2	0.5
BU306F	SOT186	300	8	8	5	2	600	20	1.5	5	1
MJE13006	TO-220AB	300	8	8	5	2	600	80	1.5	5	1
MJE13008	TO-220AB	300	12	8	5	5	600	100	1.5	8	1.6

High voltage (cont.)

Bipolar LF power

typenumber	outline	V_{CEO} V	$I_{C\text{-}max}$ A	h_{FE} min	@ V_{CE} V	@ I_C A	V_{CESM} V	P_{max} W	V-CEsat max V	@ I_C A	@ I_B A
BF587 ∈	TO-202	350	0.05	50	20	0.025		5			
BF588 ∈	TO-202	350	0.05	50	20	0.025		5	0.5	0.02	0.002
BU724	SOT82	375	2				650	25	5	0.4	0.001
BU826	SOT93	375	6				800	125	2	2.5	0.055
BUX86	TO-126	400	0.5				800	20	1	0.2	0.02
PH13003	TO-126	400	1.5	8	2	0.5	700	1.25	1	1	0.25
BUW84	SOT82	400	2				800	50	0.8	0.3	0.03
BUX84	TO-220AB	400	2				800	40	1	1	0.2
BUX84F	SOT186	400	2				800	18	1	1	0.2
BU724A	TO-126	400	2				850	25	3	0.3	0.001
BU305F	SOT186	400	4	8		2	700	18	0.6	2	0.5
MJE13005	TO-220AB	400	4	8	5	2	700	75	0.6	2	0.5
BUT11	TO-220AB	400	5				850	100	1.5	3	0.6
BUT11F	SOT186	400	5				850	20	1.5	3	0.6
BUT21B	TO-220AB	400	5				750	100	1.5	3	0.4
BUT21BF	SOT186	400	5				750	20	1.5	3	0.4
BUW11	SOT93	400	5				850	100	1.5	3	0.6
BUW11F	SOT199	400	5				850	41	1.5	3	0.6
BUV82	SOT93	400	6				850	100	1.5	2.5	0.5
BU826A	SOT93	400	6				1000	125	2	2.5	0.055
BUT18	TO-220AB	400	6	10	5	0.01	850	110	1.5	4	0.8
BUT18F	SOT186	400	6	10	5	0.01	850	33	1.5	4	0.8
BUP22B	SOT93	400	8				750	125	1.5	6	0.8
BUP22BF	SOT199	400	8				750	45	1.5	6	0.8
BUT12	TO-220AB	400	8				850	125	1.5	6	1.2
BUT12F	SOT186	400	8				850	23	1.5	6	1.2
BUT22B	TO-220AB	400	8				750	125	1.5	6	0.6
BUT22BF	SOT186	400	8				750	32	1.5	6	0.8
BUW12	SOT93	400	8				850	125	1.5	6	1.2
BUW12F	SOT199	400	8				850	45	1.5	6	1.2
BU307F	SOT186	400	8	8	5	2	700	20	1.5	5	1
MJE13007	TO-220AB	400	8	8	5	2	700	80	1.5	5	1
BUV47	SOT93	400	9				850	120	1.5	5	1
BUV90	SOT93	400	12				650	125	2	10	0.3
BUV90F	SOT199	400	12				650	34	1.5	5	0.05
MJE13009	TO-220AB	400	12	8	5	5	700	100	1.5	8	1.6
BUP23B	SOT93	400	15				750	175	1.5	10	1.33
BUP23BF	SOT199	400	15				750	50	1.5	10	1.33
BUV48	SOT93	400	15				850	150	1.5	10	2
BUW13	SOT93	400	15				850	175	1.5	10	2
BUW13F	SOT199	400	15				850	50	1.5	10	2
BUX87	TO-126	450	0.5				1000	20	1	0.2	0.02
BUW85	SOT82	450	2				1000	50	0.8	0.3	0.03
BUX85	TO-220AB	450	2				1000	40	1	1	0.2
BUX85F	SOT186	450	2				1000	18	1	1	0.2
BUT11A	TO-220AB	450	5				1000	100	1.5	2.5	0.5
BUT11AF	SOT186	450	5				1000	20	1.5	2.5	0.5
BUT21C	TO-220AB	450	5				850	100	1.5	3	0.5
BUT21CF	SOT186	450	5				850	20	1.5	3	0.5
BUW11A	SOT93	450	5				1000	100	1.5	2.5	0.5
BUW11AF	SOT199	450	5				1000	41	1.5	2.5	0.5

Bipolar LF power

High voltage (cont.)

typenumber	outline	V_{CEO} V	$I_{C\text{-}max}$ A	h_{FE} min	@ V_{CE} V	@ I_C A	V_{CESM} V	P_{max} W	V-CEsat max V	@ I_C A	@ I_B A
BUT131	TO-220AB	450	5	5	5	5	850	80	2.5	3	0.4
BUW131	SOT93	450	5	5	5	5	850	125	2.5	5	0.66
BUT131H	TO-220AB	450	5	7	5	5	850	80	2.5	3	0.3
BUW131H	SOT93	450	5	7	5	5	850	125	2.5	5	0.5
BUV83	SOT93	450	6				1000	100	1.5	2.5	0.5
BUT18A	TO-220AB	450	6	10	5	0.01	1000	110	1.5	4	0.8
BUT18AF	SOT186	450	6	10	5	0.01	1000	33	1.5	4	0.8
BUP22C	SOT93	450	8				850	125	1.5	6	1
BUP22CF	SOT199	450	8				850	45	1.5	6	1
BUT12A	TO-220AB	450	8				1000	125	1.5	5	1
BUT12AF	SOT186	450	8				1000	23	1.5	5	1
BUT22C	TO-220AB	450	8				850	125	1.5	6	0.6
BUT22CF	SOT186	450	8				850	32	1.5	6	1
BUW12A	SOT93	450	8				1000	125	1.5	5	1
BUW12AF	SOT199	450	8				1000	45	1.5	5	1
BUW132	SOT93	450	8	5	5	8	850	125	3	5	0.66
BUW132H	SOT93	450	8	7	5	8	850	125	3	5	0.5
BUV47A	SOT93	450	9				1000	120	1.5	5	1
BUP23C	SOT93	450	15				850	175	1.5	10	1.67
BUP23CF	SOT199	450	15				850	50	1.5	10	1.67
BUV48A	SOT93	450	15				1000	150	1.5	8	1.6
BUW13A	SOT93	450	15				1000	175	1.5	8	1.6
BUW13AF	SOT199	450	15				1000	50	1.5	8	1.8
BUW133	SOT93	450	15	5	5	15	850	135	3	10	1.3
BUW133H	SOT93	450	15	7	5	15	850	135	3	10	1
ESM3045A	SOT227A	450	24				1000	125	2	15	0.3
ESM3045AV	SOT227B	450	24				1000	125	2	15	0.3
ESM3045D	SOT227A	450	24				600	125	2	15	0.3
ESM3045DV	SOT227B	450	24				600	125	2	15	0.3
BUV98	SOT227A	450	30				850	150	1.5	20	4
BUV98A	SOT227A	450	30				1000	150	1.5	16	3.2
BUV98AV	SOT227B	450	30				1000	150	1.5	16	3.2
BUV98V	SOT227B	450	30				850	150	1.5	20	4
ESM4045A	SOT227A	450	42				1000	150	2	25	0.5
ESM4045AV	SOT227B	450	42				1000	150	2	25	0.5
ESM4045D	SOT227A	450	42				600	150	2	25	0.5
ESM4045DV	SOT227B	450	42				600	150	2	25	0.5
BUV298	SOT227A	450	60				850	250	1.2	40	8
BUV298A	SOT227A	450	60				1000	250	1.2	32	6.4
BUV298AV	SOT227B	450	60				600	250	1.2	32	6.4
BUV298V	SOT227B	450	60				1000	250	1.2	40	8
ESM5045D	SOT227A	450	60				600	175	2	60	0.5
ESM5045DV	SOT227B	450	60				600	175	2	35	0.7
ESM6045A	SOT227A	450	84				1000	250	2	50	1
ESM6045AV	SOT227B	450	84				1000	250	2	50	1
ESM6045D	SOT227A	450	84				600	250	2	50	1
ESM6045DV	SOT227B	450	84				600	250	2	50	1
BUT131A	TO-220AB	500	5	5	5	5	1000	80	2.5	3	0.4
BUW131A	SOT93	500	5	5	5	5	1000	125	2.5	5	1
BUW132A	SOT93	500	8	5	5	8	1000	125	1.5	5	1
BUW133A	SOT93	500	15	5	5	15	1000	135	1.5	10	2

High voltage (cont.)

typenumber	outline	V_{CEO} V	$I_{C\text{-max}}$ A	h_{FE} min	@ V_{CE} V	@ I_C A	V_{CESM} V	P_{max} W	V-CEsat max V	@ I_C A	@ I_B A
BU603	TO-220AB	550	5	6	2	2	1350	100	2	2	0.33
BU903	SOT93	550	6	6	2	3.2	1350	125	2	3.2	0.53
BU903F	SOT199	550	6	6	2	3.2	1350	125	2	3.2	0.53
BU705	SOT93A	700	2.5				1500	75	5	2	0.9
BU705D	SOT93A	700	2.5				1500	75	5	2	0.9
BU505	TO-220AB	700	2.5	2.2	5	2	1500	75	5	2	0.9
BU505D	TO-220AB	700	2.5	2.2	5	2	1500	75	5	2	0.9
BU705F	SOT199	700	2.5	2.2	5	2	1500	29	5	2	0.9
BU505DF	SOT186	700	2.5	2.22	5	2	1500	20	5	2	0.9
BU505F	SOT186	700	2.5	2.22	5	2	1500	20	5	2	0.9
BU506	TO-220AB	700	5				1500	100	5	3	1.33
BU506D	TO-220AB	700	5				1500	100	5	3	1.33
BU706	SOT93A	700	5				1500	100	5	3	1.33
BU706D	SOT93A	700	5				1500	100	5	3	1.33
BU506DF	SOT186	700	5	2.25	5	3	1500	20	5	3	1.33
BU506F	SOT186	700	5	2.25	5	3	1500	20	5	3	1.33
BU706DF	SOT199	700	5	2.25	5	3	1500	32	5	3	1.33
BU706F	SOT199	700	5	2.25	5	3	1500	32	5	3	1.33
BU508A	SOT93A	700	8				1500	125	1	4.5	2
BU508AF	SOT199	700	8				1500	34	1	4.5	2
BU508D	SOT93A	700	8				1500	125	1	4.5	2
BU508DF	SOT199	700	8				1500	34	1	4.5	2
BUV89	SOT93	800	8				1200	125	1	4.5	2

Bipolar RF Power

SSB transistors

f_{upper} = 28 MHz
transm-class = ssb

typenumber	outline	P.E.P. W	@ V_{CE} V	G_p min dB	h_{FE} min	ampl-class	V_{CEO} V	$I_{C\text{-max}}$ A	P_{max} W
BLX13C	SOT120	8	26	20	10	A	36	3	73
BLW83	SOT123	10	26	20	10	A	36	3	76
BLW50F	SOT123	16	45	19.5	15	A	55	2.5	94
BLX14	SOT55	50	28	13	15	AB	36	4	88
BLW99	SOT121	80	12.5	12.5	15	AB	17	18	192
BLW76	SOT121	80	28	13	15	AB	35	8	140
BLW77	SOT121	130	28	12	15	AB	35	12	245
BLX15	SOT55	150	50	14	15	AB	53	6.5	
BLW95	SOT121	160	50	14	15	AB	53	8	245
BLW97	SOT121	175	28	11.5	15	AB	33	15	190
BLW96	SOT121	200	50	13.5	15	AB	55	12	340

transm-class = cw

typenumber	outline	P_L min W	f_{upper} MHz	@ V_{CE} V	G_p min dB	h_{FE} min	ampl-class	V_{CEO} V	V_{CER} V	$I_{C\text{-}max}$ A
BLU98	SOT103	0.5	900	12.5	8	25	B	16		0.15
BLT90/SL	SOT172D	0.75	900	7.5	7	25	B	10		0.25
BLT80	SOT223	0.8	900	7.5	6	25	B	10		0.25
2N3866	TO-39	1	100	28	10	10	B	30	55	0.4
2N4427	TO-39	1	175	12	10	10	B	20	40	0.4
BLU56	SOT223	1	470	12.5	12	25	B	16		0.2
BLU86	SOT223	1	900	12.5	7	80	B	15		0.15
BLV90	SOT172A1	1	900	12.5	7.5	25	B	16		0.2
BLV90/SL	SOT172D	1	900	12.5	7.5	25	B	16		0.2
BLT50	SOT223	1.2	470	7.5	10	25	B	10		0.5
BLT91/SL	SOT172D	1.5	900	7.5	6	25	B	10		0.5
BFQ42	TO-39	2	175	13.5	11	10	B	18		0.6
BLX65	TO-39	2	470	12.5	6	10	B	18		0.7
BLW79	SOT122	2	470	12.5	9	10	B	17		0.5
BLX65E	TO-39	2	470	12.5	9	10	B	16		0.7
BLX65ES	TO-39	2	470	12.5	9	10	B	16		0.7
BLW89	SOT122	2	470	28	12	10	B	30		0.32
BLV91	SOT172A1	2	900	12.5	6.5	25	B	16		0.4
BLV91/SL	SOT172D	2	900	12.5	6.5	25	B	16		0.4
BLV99	SOT172	2	900	24	8	25	B	27		0.2
BLV99/SL	SOT172D	2	900	24	8	25	B	27		0.2
2N3553	TO-39	2.5	175	28	10	15	B	40		0.35
BLU11/SL	SOT122D	2.5	470	12.5	10	25	B	16		0.4
BLT92/SL	SOT122D	3	900	7.5	7	25	B	10		1.2
2N3924	TO-39	4	175	13.5	6	10	B	18		0.5
BFS22A	TO-39	4	175	13.5	8	5	B	18		0.75
BFQ43	TO-39	4	175	13.5	12	10	B	18		1.25
BFQ43S	TO-39	4	175	13.5	12	10	B	18		1.25
BFS23A	TO-39	4	175	28	10	5	B	36		0.5
BLW80	SOT122	4	470	12.5	8	10	B	17		1
BLW90	SOT122	4	470	28	11	10	B	30		0.62
BLV92	SOT171	4	900	12.5	7.5	25	B	16		0.8
BLV103	SOT171	4	960	24	11.5	20	AB	30		1.25
BLU99	SOT122	5	470	12.5	10.5	25	B	16		0.8
BLT93/SL	SOT122D	6	900	7.5	5.5	25	B	10		1.2
2N3926	TO-60	7	175	13.5	5.5	5	B	18		1
BLU97	SOT122	7	470	12.5	8.5	25	B	16		1.2
2N3375	TO-60	7.5	100	28	8.8	15	B	40		0.5
BLV10	SOT123	8	175	13.5	9	10	B	18		1.5
BLY87C/01	SOT122	8	175	13.5	9	5	B	18		1.25
BLY87C	SOT120	8	175	13.5	12	10	B	18		1.5
BLV20	SOT123	8	175	28	12	10	B	36		0.9
BLY91C	SOT120	8	175	28	12	10	B	36		0.9
BLY91C/01	SOT122F	8	175	28	12	5	B	36		0.75
BLT53	SOT122D	8	470	7.5	6	25	B	10		2.5
BLV93	SOT171	8	900	12.5	6.5	25	B	16		1.6
BLV100	SOT171	8	960	24	8	20	AB	30		2.25
BLW81	SOT122	10	470	12.5	6	10	B	17		2.5
BLU10/12	SOT122	10	470	12.5	8	25	B	16		1.6
BLW91	SOT122	10	470	28	9	10	B	30		1.5

typenumber	outline	P_L min W	f_{upper} MHz	@ V_{CE} V	G_p min dB	h_{FE} min	ampl-class	V_{CEO} V	V_{CER} V	$I_{C\text{-}max}$ A
2N3927	TO-60	12	175	13.5	4.8	5	B	18		1.5
2N3632	TO-60	13.5	175	28	5.9	10	B	40		1
BLV98	SOT171	14	900	24	8.5	15	B	27		1.5
BLY88C/01	SOT122	15	175	13.5	7.5	5	B	18		2.5
BLV11	SOT123	15	175	13.5	8	10	B	18		3
BLY88C	SOT120	15	175	13.5	8	10	B	18		3
BLW29	SOT120	15	175	13.5	10	10	B	18		2.75
BLV21	SOT123	15	175	28	10	10	B	36		1.75
BLY92C	SOT120	15	175	28	10	10	B	36		1.75
BLY92C/01	SOT122F	15	175	28	10	5	B	36		1.5
BLU15/12	SOT122	15	470	12.5	7.8	15	B	16		3
BLV94	SOT171	15	900		6	15	B	16		3
BLV98CE	SOT171	15	960	24	7.5	15	AB	27		1.5
BLU20/12	SOT119	20	470	12.5	6.5	15	B	16.5		4
BLV95	SOT171	22	900		5.5	15	B	16		5
BLW87	SOT123	25	175	13.5	6	10	B	18		6
BLY89C	SOT120	25	175	13.5	6	10	B	18		6
BLW84	SOT123	25	175	28	9	10	B	36		3
BLY93C	SOT120	25	175	28	9	10	B	36		3
BLX94C	SOT122	25	470	28	6.5	15	B	30		2.5
BLW31	SOT120	28	175	13.5	9	10	B	18		6
BLV12	SOT123	30	175	12.5	9	25	B	16		6
BLW30	SOT120	30	175	12.5	10	25	B	16		6
BLU30/12	SOT119	30	470	12.5	6	15	B	16.5		6
BLU30/28	SOT119	30	470	28	8	20	B	32		4
BLV59	SOT171	30	860	25	7	15	AB	27		3
BLV97	SOT171	30	900		7	15	B	27		3
BLV97CE	SOT171	35	960	24	7	15	AB	27		3
BLV13	SOT123	40	175	12.5	8.5	15	B	16.5		8
BLX95	SOT56	40	470	28	4.5	25	B	30	65	3
BLW85	SOT123	45	175	12.5	4.5	10	B	18		9
BLW60C	SOT120	45	175	12.5	5	10	B	18		9
BLV45/12	SOT119	45	175	12.5	6.5	15	B	16.5		9
BLW86	SOT123	45	175	28	7.5	10	B	36		4
BLX39	SOT120	45	175	28	7.5	10	B	36		4
BLU45/12	SOT119	45	470	12.5	4.8	15	B	16.5		9
BLY90	SOT55	50	175	12.5	5	10	B	18		8
BLY94	SOT55	50	175	28	7	10	B	36		6
BLV101A	SOT273	50	900	26	8.5	15	AB	27		10
BLV101B	SOT273	50	960	26	7.5	15	AB	27		10
BLU60/12	SOT119	60	470	12.5	4.4	15	B	16.5		12
BLU60/28	SOT119	60	470	28	7	20	B	32		8
BLV75/12	SOT119	75	175	12.5	6.5	15	B	16.5		15
BLV80/28	SOT121	80	175	28	6.5	15	B	33		8.5
BLW78	SOT121	100	150	28	6	20	B	35		10
BLV62	SOT262A2	150	860	28	8.5	30	AB	28		12.5
BLV25	SOT119	175	108	28	10	15	B	33		17.5
BLV37	SOT179	250	108	28	10.5	15	B	40		10

TV transposers

ampl-class = A

typenumber	outline	P_{load} W	f_{upper} MHz	G_p min dB	d_{im} dB	P_{max} W	@ T_{mb} Cel	@ T_h Cel	V_{CEO} V	$I_{C\text{-}max}$ A	I_{CM} A
BLW32	SOT122	0.5	860	11	-60	10.8	25		30	0.65	1
BLW33	SOT122	1	860	10	-60	19.3	25		30	1.25	1.9
BLV30	SOT122	1.5	224.25	18	-60	32.5	25		30	1.5	3.5
BLW34	SOT122	1.8	860	9	-60	31	25		30	2.25	3.5
BLX98	SOT48/2	3.5	860	5	-60	21.5		70	27	2	4
BLW98	SOT122	3.5	860	6.5	-60	21.5		70	27	2	4
BLV31	SOT122	5	224.25	15	-58	48	25		30	3	6
BLV57	SOT161	6	860	8	-60	93	25		27	2	4
BLV32F	SOT160	10	224.25	16	-55	100	25		32	4	12
BLV33F	SOT119	16	224.25	13.5	-55	162	25		33	12.5	20
BLV33	SOT147	19	224.25	9	-55	165	25		33	12.5	20
BLV58	SOT289	25	860	10	-45	87	70		27	4	8

Bipolar RF Power

RF power modules

transm.class = cw

typenumber	outline	f_{upper} MHz	P_L min W	V_{supply} nom V	f_{lower} MHz	G_p min dB	efficiency %
BGY112A	SOT288C	88	7	7.5	68	38.5	40
BGY32	SOT132B	88	18	12.5	68	22.6	40
BGY145A	SOT183A	88	29	12.5	68	22.9	37
BGY33	SOT132B	108	18	12.5	80	22.6	40
BGY112B	SOT288C	156	7	7.5	132	38.5	40
BGY35	SOT132B	156	18	12.5	132	20.8	40
BGY112C	SOT288C	174	7	7.5	146	38.5	40
BGY43	SOT132B	174	13	12.5	148	19.4	40
BGY36	SOT132B	174	18	12.5	148	20.8	40
BGY145B	SOT183A	174	28	12.5	146	19.7	40
BGY145C	SOT183A	200	27	12.5	174	19.5	35
BGY46A	SOT181	440	1.4	9.6	400	15	40
BGY113A	SOT288D	440	7	7.5	400	38.5	40
BGY46B	SOT181	470	1.4	9.6	430	15	40
BGY47A	SOT181	470	2	7.5	400	18	40
BGY113B	SOT288D	470	7	7.5	430	38.5	40
BGY110A	SOT246	849	1.2	6	824	30.8	40
BGY110D	SOT246	849	1.7	7.2	824	32.3	39
BGY95A	SOT200	851	2.2	7.5	824	20.4	35
BGY96A	SOT200	851	2.5	9.6	824	21	35
BGY110B	SOT246	905	1.2	6	872	30.8	40
BGY110E	SOT246	905	1.7	7.2	872	32.3	39
BGY110F	SOT246	915	1.7	7.2	890	32.3	39
BGY95B	SOT200	915	2.2	7.5	890	20.4	35
BGY96B	SOT200	915	2.5	9.6	890	21	35

uWave pulsed power

Bipolar RF Power

ampl-class = C
polarity = NPN

type-number	outline	RF-band	P_L typ	@ delta	@ dt	G_p min	f_{lower}	f_{upper}	V_{supply} nom	eta typ	P_{max}
			W	%	us	dB	GHz	GHz	V	%	W
MRB11040W	FO67	AVIO		1	1	10	1.03	1.09	50		140
MTB10010U	FO41B	AVIO	11	1	1	9.5	1.03	1.09	24	55	36
MZ0912B50Y	FO57C	AVIO	60	10	10	7	0.96	1.215	50	44	150
MZ0912B100Y	FO57C	AVIO	115	10	10	7	0.96	1.215	50	44	290
MRB11175Y	FO67	AVIO	200	1	10	7.5	1.09	1.09	50	40	500
MX0912B250Y	FO91	AVIO	275	10	10	7	0.96	1.215	50	47	690
MX0912B350Y	FO91	AVIO	375	10	10	7	0.96	1.215	50	47	960
MRB11350Y	FO67	AVIO	400	1	10	7	1.09	1.09	50	35	1000
MX1011B700Y	FO91B	AVIO	740	1	10	6.4	1.03	1.09	50	55	1365
MSB11900Y	FO96	AVIO	850	1	10	7	1.09	1.09	50	35	2000
RX1214B350Y	FO91B	L-band		6	130		1.2	1.4		44	750
RZ1214B35Y	FO57C	L-band	40	5	150	7	1.2	1.4	50	35	125
RZ1214B65Y	FO57C	L-band	80	5	150	7	1.2	1.4	50	40	225
RX1214B130Y	FO91B	L-band	140	5	150	7	1.2	1.4	50	39	280
RX1214B150W	FO91	L-band	150	10	1000	6.5	1.2	1.4	40	42	355
RX1214B170Y	FO91	L-band	190	5	150	6.7	1.2	1.4	50	42	
RX1214B300Y	FO91	L-band	320	5	150	7	1.2	1.4	50	40	570
RV3135B5X	FO83	S-band	5.6	10	100	4.3	3.1	3.5	24	47	25
RZ3135B14W	FO57D	S-band	14	10	100	5.5	3.1	3.5	40	34	35
RZ2731B16W	FO57D	S-band	16	10	100	6	2.7	3.1	40	38	35
RZ3135B28W	FO57D	S-band	28	10	100	5.5	3.1	3.5	40	34	70
RZ2731B32W	FO57D	S-band	32	10	100	6	2.7	3.1	40	38	70
RZ3135B42W	FO57D	S-band	42	10	100	5.5	3.1	3.5	40	34	100
RZ2731B48W	FO57D	S-band	48	10	100	6	2.7	3.1	40	38	100
RZ3135B50W	FO57D	S-band	55	10	100	5.2	3.1	3.5	40	35	125
RZ2731B60W	FO57D	S-band	65	10	100	6	2.7	3.1	40	40	125
RX3034B70W	FO125A	S-band	80	10	100	5.4	3	3.4	40	35	185
RX2731B90W	FO125A	S-band	100	10	100	6	2.7	3.1	40	40	185

Bipolar RF Power

uWave class-A

transm-class = cw
polarity = NPN

typenumber	outline	f_{upper} MHz	P_{L1} W	G_{po} dB	f_{lower} MHz	V_{supply} V	ampl-class	V_{CEO} V	V_{CER} V	I_{C-max} A	P_{max} W
LEE1015T	SOT122	861	1.3	14.5	859	20	A	20	40	0.5	7.5
LLE16120X	FO229	1650	13	10		24	AB	15	30	2	23
LXE16350X	FO91B	1650	35	10		24	AB	20	30	6	67
LZE18100R	FO57C	1800	10	11	1400	16	A	20	30	4	45
LZ1418E100R	FO57C	1800	10	11	1400	16	A	20	30	4	45
LLE18100X	FO229	1850	11	10		24	AB	15	30	2	23
LXE18300X	FO91B	1850	30	9	1600	24	AB	20	30	6	67
LBE2003S	FO45	2000	0.25	11		18	A	16	35	0.09	1.4
LCE2003S	FO46	2000	0.25	11		18	A	16	35	0.09	1.4
LBE2009S	FO45	2000	0.9	9.8		18	A	16	35	0.25	3.5
LCE2009S	FO46	2000	0.9	9.8		18	A	16	35	0.25	3.5
LTE21015R €	FO41B	2000	1.8	9.5		16	A	16	20	0.45	7.5
LTE21009R	FO41B	2100	1	8.5		16	A	16	35	0.25	4
LV1721E50R €	FO83	2100	5.5	8	1700	16	A	15	20	2	18
LWE2010S	FO93	2300	0.9	9		18	A	15	20	0.25	4.8
LWE2015R	FO93	2300	1.6	8.1		16	A	16	20	0.45	6
LWE2025R	FO93	2300	2.8	7.8		16	A	16	20	0.8	8
LV2024E45R €	FO83	2400	5	7	2000	16	A	15	20	2	18
LV2327E40R €	FO83	2700	5	8	2300	16	A	15	20	2	18
LAE4001R €	SOT100	4000	0.11	9.5		15	A	16	25	0.08	0.48
LAE4002S €	SOT100	4000	0.16	8		18	A	16	35	0.09	0.625
LTE4002S	FO41B	4000	0.2	8		18	A	16	35	0.09	1
LUE2003S	FO163	4000	0.25	11	2000	18	A	16	35	0.09	1.4
LUE2009S	FO163	4000	0.9	9.8	2000	18	A	16	35	0.25	3.5
LTE42005S €	FO41B	4200	0.55	7.2		18	A	16	35	0.25	4
LTE42008R €	FO41B	4200	0.94	7.5		18	A	16	20	0.45	7.5
LTE42012R €	FO41B	4200	1.25	7		16	A	16	20	0.8	8
LTE21025R	FO41B	4200	2.8	7.8	2100	16	A	16	20	0.8	8
LVE21050R	FO83	4200	5.5	8	2100	16	A	16	20	2	18

uWave power class-B

ampl-class = B
V_{CEO} = 15 V
polarity = NPN

typenumber	outline	f_{upper} MHz	P_L W	G_p dB	f_{lower} MHz	V_{supply} V	eta typ %	V_{CBO} V	$I_{C\text{-}max}$ A	P_{max} W
PZB16035U €	FO57C	1550	35	8		28	50	40	4	45
PLB16002U	FO229	1600	2.2	8.5		28	50	40	0.25	
PLB16004U	FO229	1600	4.5	8.5		28	50	40	0.5	
PLB16006U	FO229	1600	6.5	8.5		28	50	40	0.75	
PLB16008U	FO229	1600	9	8.5		28	50	40	1	
PXB16050U	FO91	1650	45	8.5		28	52	45	6	67
PLB16012U	FO229	1800	10	7	1400	28	50	45	0.9	15
PZ1418B15U €	FO57C	1800	12.5	7	1400	28	45	40	2	27
PZ1418B30U €	FO57C	1800	27	7.3	1400	28	45	40	4	45
PLB16030U	FO229	1800	30	7	1400	28	52	45	2.6	40
PTB23001X €	FO41B	2000	1	7		24	50	40	0.25	5.5
PTB23003X €	FO41B	2000	3	8.75		24	50	40	0.5	10
PTB23005X €	FO41B	2000	5	9.2		24	50	40	0.75	14.5
PZ1721B12U €	FO57C	2100	12	6.8	1700	28	45	40	2	27
PZ1721B25U €	FO57C	2100	25	7	1700	28	44	40	4	45
PTB23002U	FO41B	2300	2	9		28	50	40	0.25	5
PZ2024B10U €	FO57C	2400	9	5.6	2000	28	45	40	2	27
PZ2024B20U €	FO57C	2400	20	6	2000	28	42	40	4	45
PZ2327B15U	FO57D	2700	15	7	2300	28	45	40	2.1	32
PTB32001X €	FO41B	3000	1.3	8		24	45	40	0.25	5.5
PTB32003X €	FO41B	3000	2.5	8		24	45	40	0.5	10
PTB32005X €	FO41B	3000	4.5	8		24	45	40	0.75	14.5
PTB42001X €	FO41B	4200	0.8	5		24	33	40	0.25	5.5
PTB42002X €	FO41B	4200	1.6	5		24	35	40	0.5	10
PTB42003X €	FO41B	4200	2.5	5		24	33	40	0.75	14.5
PVB42004X €	FO83	4200	4	6		24	25	40	1	18

FET small signal

Junct.FET amplifier

typenumber	outline	C rs pF	I DSS min mA	C iss typ pF	y-fs min mA/V	channel-type	I DSS max mA	I GSS max nA	C iss max pF
BFR101A	SOT143		0.2		1.2	N	1.5		5
BFR200	SOT143		0.2		1.3	N	3.5	0.003	6
BF510	SOT23	0.3	0.7		2.5	N	3	10	5
BF511	SOT23	0.3	2.5		4	N	7	10	5
BF512	SOT23	0.3	6		4	N	12	10	5
BF513	SOT23	0.3	10		3.5	N	18	10	5
BF410A	TO-92	0.5	0.7		2.5	N	3	10	5
BF410B	TO-92	0.5	2.5		4	N	7	10	5
BF410C	TO-92	0.5	6		6	N	12	10	5
BF410D	TO-92	0.5	10		7	N	18	10	5
BFW11	TO-72	0.6	4	4	3	N	10	0.1	5
BFW10	TO-72	0.6	8	4	3.5	N	20	0.1	5
BF256A	TO-92	0.7	3		4.5	N	7	5	
BF256B	TO-92	0.7	6		4.5	N	13	5	
BF256C	TO-92	0.7	11		4.5	N	18	5	
BFS21	SOT52	0.75	1			N			5
BFW13	TO-72	0.8	0.2		0.5	N	1.5	0.1	5
BFW12	TO-72	0.8	1		0.5	N	5	0.1	5
2N5484	TO-92	1	1		2.5	N	5	1	5
2N5485	TO-92	1	4		3	N	10	1	5
2N5486	TO-92	1	8		3.5	N	20	1	5
BF545A/0	SOT23	1.1	0.5	4	3	N	2.1		
BF245A	TO-92	1.1	2	4	3	N	6.5	5	
BF545A	SOT23	1.1	2	4	3	N	6.5		
BF245B	TO-92	1.1	6	4	3	N	15	5	
BF545B	SOT23	1.1	6	4	3	N	15		
BF245C	TO-92	1.1	12	4	3	N	25	5	
BF545C	SOT23	1.1	12	4	3	N	25		
2N4220	TO-72	1.2	0.5	4.5	0.75	N	3	0.1	6
2N4220A	TO-72	1.2	0.5	4.5	0.75	N	3	0.1	6
BC264A	TO-92	1.2	2	4	2.5	N	4.5	10	
2N4221	TO-72	1.2	2	4.5	0.75	N	6	0.1	6
2N4221A	TO-72	1.2	2	4.5	0.75	N	6	0.1	6
BC264B	TO-92	1.2	3.5	4	3	N	6.5	10	
BC264C	TO-92	1.2	5	4	3.5	N	8	10	
2N4222	TO-72	1.2	5	4.5	0.75	N	15	0.1	6
2N4222A	TO-72	1.2	5	4.5	0.75	N	15	0.1	6
BC264D	TO-92	1.2	7	4	4	N	12	10	
BFU308	TO-18	1.3	12	3	10	N	60	1	5
BFU309	TO-18	1.3	12	3	10	N	30	1	5
J308	TO-92	1.3	12	3	10	N	60	1	5
J309	TO-92	1.3	12	3	10	N	30	1	5
PMBFJ308	SOT23	1.3	12	3	10	N	60	1	5
PMBFJ309	SOT23	1.3	12	3	10	N	30	1	5
BFU310	TO-18	1.3	24	3	10	N	60	1	5
J310	TO-92	1.3	24	3	10	N	60	1	5
PMBFJ310	SOT23	1.3	24	3	10	N	60	1	5
BFT46	SOT23	1.5	0.2		0.5	N	1.5	0.2	5
BFR31 €	SOT23	1.5	1		1.5	N	5	0.2	4
BFR30 €	SOT23	1.5	4		1	N	10	0.2	4
2N5460	TO-92	2	1		1	P	5	5	

Junct.FET amplifier (cont.)

typenumber	outline	C_{rs} pF	I_{DSS} min mA	C_{iss} typ pF	y-fs min mA/V	channel-type	I_{DSS} max mA	I_{GSS} max nA	C_{iss} max pF
2N5461	TO-92	2	2		1.5	P	9	5	
2N5462	TO-92	2	4		2	P	16	5	
2N4416	TO-72	2	5		4.5	N	15	0.1	4
2N4416A	TO-72	2	5		4.5	N	15	0.1	4
2N4340	TO-18	3	1.2			N	3.6	0.1	7
PMBFJ113	SOT23	3	2	6		N		1	
BSR113	SOT23	3	2	22		N		1	28
PMBFJ112	SOT23	3	5	6		N		1	
BSR112	SOT23	3	5	22		N		1	28
PMBFJ111	SOT23	3	20	6		N		1	
BSR111	SOT23	3	20	22		N		1	28
BF246A	TO-92	3.5	30	11	8	N	80	5	
BF247A	TO-92	3.5	30	11	8	N	80	5	
BF246B	TO-92	3.5	60	11	8	N	140	5	
BF247B	TO-92	3.5	60	11	8	N	140	5	
BF246C	TO-92	3.5	110	11	8	N	250	5	
BF247C	TO-92	3.5	110	11	8	N	250	5	
BSR177	SOT23	4	1.5	8		P	20	1	
PMBFJ177	SOT23	4	1.5	8		P	20	1	
2N3819	TO-92	4	2		2	N	20	2	8
PMBFJ176	SOT23	4	2	8		P	35	1	
PMBFJ175	SOT23	4	7	8		P	70	1	
PMBFJ174	SOT23	4	20	8		P	135	1	
2N5116	TO-18	7	5			P	25	0.5	27
J110	SOT54	8	10	15		N		3	30
PMBFJ110	SOT23	8	10	15		N		3	30
PZFJ110	SOT223	8	10	15		N		3	30
J109	SOT54	8	40	15		N		3	30
PMBFJ109	SOT23	8	40	15		N		3	30
PZFJ109	SOT223	8	40	15		N		3	30
J108	SOT54	8	80	15		N		3	30
PMBFJ108	SOT23	8	80	15		N		3	30
PZFJ108	SOT223	8	80	15		N		3	30
2N3820	TO-92	16	0.3		0.8	P	15	20	32

FET small signal

Junct.FET switching

typenumber	outline	channel-type	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ Ohm	$V_{GS(off)max}$ V	P_{max} mW	$V_{GS(off)min}$ V	t_{on} max ns	t_{off} max ns
2N4859	TO-18	N	30	25	10	360	4	9	25
2N4860	TO-18	N	30	40	6	360	2	10	50
2N4861	TO-18	N	30	60	4	360	0.8	20	100
BSR56	SOT23	N	40	25	10	250	4	9	25
2N4856	TO-18	N	40	25	10	360	4	9	25
BSV78 €	TO-18	N	40	25	11	350	3.75	10	10
J111	TO-92	N	40	30	10	360	3	13	35
PMBF4391	SOT23	N	40	30	10	250	4	15	20
PN4391	TO-92	N	40	30	10	360	4	15	20
2N4091	TO-18	N	40	30	10	1800	5	25	40
2N4391	TO-18	N	40	30	10	1800	4	15	20
BSR57	SOT23	N	40	40	6	250	2	10	50
2N4857	TO-18	N	40	40	6	360	2	10	50
BSV79 €	TO-18	N	40	40	7	350	2	18	16
J112	TO-92	N	40	50	5	360	1	13	35
2N4092	TO-18	N	40	50	7	1800	2	35	60
BSR58	SOT23	N	40	60	4	250	0.8	20	100
2N4858	TO-18	N	40	60	4	360	0.8	20	100
BSV80 €	TO-18	N	40	60	5	350	1	30	32
PMBF4392	SOT23	N	40	60	5	250	2	15	35
PN4392	TO-92	N	40	60	5	360	2	15	35
2N4392	TO-18	N	40	60	5	1800	2	15	35
2N4093	TO-18	N	40	80	5	1800	1	60	80
J113	TO-92	N	40	100	3	360	0.5	13	35
PMBF4393	SOT23	N	40	100	3	250	0.5	15	50
PN4393	TO-92	N	40	100	3	360	0.5	15	50
2N4393	TO-18	N	40	100	3	1800	0.5	15	50
J174	TO-92	P	30	85	10	400	5	7	15
J175	TO-92	P	30	125	6	400	3	15	30
J176	TO-92	P	30	250	4	400	1	35	35
J177	TO-92	P	30	300	2.25	400	0.8	45	45

MOS FET amplifier

channel-type = N
gate-type = INS

typenumber	outline	$I_{D\text{-max}}$ mA	Y_{fs} min mA/V	$V_{DS\text{-max}}$ V	P_{max} mW	C_{rs} typ pF	I_{DSS} min mA	I_{DSS} max mA	$V_{GS(off)max}$ V
BF960	SOT103	20	9.5	20	225	0.025	2	20	
BF989	SOT143	20	9.5	20	200	0.025	2	20	2.7
BF981	SOT103	20	10	20	225	0.02	4	25	
BF991	SOT143	20	10	20	200	0.02	4	25	2.5
BF964S	SOT103	30	15	20	225	0.025	4	20	
BF965	SOT103	30	15	20	225	0.025	2	20	
BF966S	SOT103	30	15	20	225	0.025	4	20	
BF994S	SOT143	30	15	20	200	0.025	4	20	
BF996S	SOT143	30	15	20	200	0.025	4	20	
BF997	SOT143	30	15	20	300	0.025	2	20	
BF980A	SOT103	30	18	18	225	0.025			
BF990A	SOT143	30	18	18	200	0.025			
BF990AR	SOT143R	30	18	18	250	0.025			
BF901	SOT143	30	20	12	200	25			
BF901R	SOT143R	30	20	12	200	25			
BF902	SOT103	30	20	12	225	25			
BF988	SOT103	30	21	12	225	0.025	2	18	2.5
BF998	SOT143	30	21	12	200	0.025	2	18	
BF998R	SOT143R	30	21	12	200	0.025	2	18	
BF982	SOT103	40	20	20	225	0.03			
BF992	SOT143	40	20	20	200	0.03			
BF992R	SOT143R	40	20	20	250	0.03			
BFR84	TO-72	50	12	20	300	0.03	20	55	3.8

FET small signal

MOS FET switching

typenumber	outline	channel-type	$V_{DS\text{-}max}$ V	$I_{D\text{-}max}$ mA	$R_{DS(on)}$ max Ohm	@ V_{GS} V	@ I_D mA	P_{max} mW	Y_{fs} min mA/V	$V_{GS(th)}$ min V
BFR29	TO-72	N		20				200	6	
BSV81	TO-72	N		25				200		
BSS83	SOT143	N	10	50	45	10	0.1	230		0.1
BSD212	TO-72	N	10	50	70	5	1	275		0.1
BSD213	TO-72	N	10	50	70	5	1	275		0.1
BSD12	TO-72	N	20	50	30	10	1	275		
BSD22	SOT143	N	20	50	30	10	1	230		
BSD214	TO-72	N	20	50	70	5	1	275		0.1
BSD215	TO-72	N	20	50	70	5	1	275		0.1
BSP103	SOT223	N	35	700	1.8	10	1000	1500	170	0.8
BSN20	SOT23	N	50	100	15	10	100	300		0.4
BSN10	TO-92	N	50	175	15	10	100	830		0.4
BSN10A	TO-92	N	50	175	15	10	100	830		0.4
BSS138	SOT23	N	50	200	3.5	5	200	360	100	0.5
2N7002	SOT23	N	60	180	5	10	500	300	100	0.8
PMBF170	SOT23	N	60	250	5	10	200	300	100	0.8
2N7000	TO-92	N	60	280	5	10	500	830	100	0.8
BSP106	SOT223	N	60	425	4	10	200	1500	100	0.8
BSP105	SOT223	N	60	500	3	10	1000	1500	170	0.8
BS170	TO-92	N	60	500	5	10	200	830		0.8
BST82	SOT23	N	80	175	10	5	150	300		
BSP110	SOT223	N	80	325	7	10	200	1500	75	0.8
BSP108	SOT223	N	80	500	3	10	500	1500	150	1.5
BST80	SOT89	N	80	500	4	10	500	1000		1.5
BSP109	SOT223	N	90	450	4	10	1000	1500	170	0.8
BSS123	SOT23	N	100	150	6	10	120	250	80	0.8
BSS100	TO-92	N	100	250	6	10	120	830	80	0.8
BST76A €	TO-92	N	180	300	10	3	15	1000		0.7
BST86	SOT89	N	180	300	10	3	15	1000		0.7
PMBF107	SOT23	N	200	100	28	2.6	20	250	90	0.8
BS107	TO-92	N	200	120	28	2.6	20			0.8
BSP107	SOT223	N	200	200	28	2.6	20	1500	90	0.8
BS107A	TO-92	N	200	250	6.4	10	250		200	1
BSN204	TO-92	N	200	250	8	2.8	100	1000	200	0.4
BSN204A	TO-92	N	200	250	8	2.8	100	1000	200	0.4
BSP120	SOT223	N	200	250	12	10	250	1500	125	0.8
BST74A	TO-92	N	200	250	12	10	250	1000		0.8
BST84	SOT89	N	200	250	12	10	250	1000		0.8
BSS87	SOT89	N	200	280	6	10	400	1000	140	0.8
BSN205	TO-92	N	200	300	6	10	400	1000	200	0.8
BSN205A	TO-92	N	200	300	6	10	400	1000	200	0.8
BSS89	TO-92	N	200	300	6	10	400	1000	140	0.8
BSP121	SOT223	N	200	350	6	10	400	1500	200	0.8
BSS91	TO-18	N	200	350	6	10	400	400	140	0.8
BSP128	SOT223	N	200	350	8	2.8	100	1500	200	0.4
BSP122	SOT223	N	200	550	2.5	10	750	1500	400	0.4
BSS88	TO-92	N	230	250	8	5	150	1000	140	0.4
BSS131	SOT23	N	240	100	16	10	100	360	60	0.8
VN2410L	TO-92	N	240	150	10	10	500	1000	200	0.8
BSN254	TO-92	N	250	300	7	10	300	1000	200	0.8
BSN254A	TO-92	N	250	300	7	10	300	1000	200	0.8

MOS FET switching (cont.)

typenumber	outline	channel-type	$V_{DS\text{-max}}$ V	$I_{D\text{-max}}$ mA	$R_{DS(on)}$ max Ohm	@ V_{GS} V	@ I_D mA	P_{max} mW	Y_{fs} min mA/V	$V_{GS(th)}$ min V
BSP126	SOT223	N	250	350	7	10	300	1500	200	0.8
BSN274	TO-92	N	270	250	8	10	250	1000	200	0.8
BSN274A	TO-92	N	270	250	8	10	250	1000	200	0.8
BSP127	SOT223	N	270	350	8	10	250	1500	200	0.8
BSN304	TO-92	N	300	300	6	10	300	1000	400	0.8
BSP130	SOT223	N	300	300	6	10	300	1000	400	0.8
BSP145	SOT223	N	450	750	14	10	500	15	400	2
BST78	TO-126	N	450	750	14	10	100			2
BS250	TO-92	P	45	250	14	10	200	830		1
BSS84	SOT23	P	50	130	10	5	100	360	50	0.8
BST110	TO-92	P	50	250	10	10	200	830		1.5
BST122	SOT89	P	50	250	10	10	200	1000	125	1.5
BSP205	SOT223	P	60	275	10	10	200	1500	60	1.5
BST100 ●	TO-92	P	60	300	6	10	200	1000		1.5
BST120	SOT89	P	60	300	6	10	200	1000		1.5
BSP206	SOT223	P	60	350	6	10	200	1500	100	1.5
BSS192	SOT89	P	200	150	20	10	100	1000	60	0.8
BSS92	TO-92	P	200	150	20	10	100	1000	60	0.8
BS208	TO-92	P	200	200	14	10	200	830	100	0.8
BSP220	SOT223	P	200	225	12	10	200	1500	100	0.8
BSP204	TO-92	P	200	250	15	10	200	1000	100	0.8
BSP204A	TO-92	P	200	250	15	10	200	1000	100	0.8
BSP254	TO-92	P	250	200	15	10	200	1000	100	0.8
BSP254A	TO-92	P	250	200	15	10	200	1000	100	0.8
BSP225	SOT223	P	250	225	15	10	200	1500	100	0.8
BSP230	SOT223	P	300	150	20	10	100	1000	100	0.8
BSP304A	TO-92	P	300	150	20			1000		0.8

FET power devices

PowerMOS

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK627-400A	SOT199	FREDFET	400	0.5	6.9	45	4	8	1.8
BUK657-400A	TO-220	FREDFET	400	0.5	13	150	4	8	1.8
BUK637-400A	SOT93	FREDFET	400	0.5	14	180	4	8	1.8
BUK627-400B	SOT199	FREDFET	400	0.6	6.2	45	4	8	1.8
BUK657-400B	TO-220	FREDFET	400	0.6	11	150	4	8	1.8
BUK637-400B	SOT93	FREDFET	400	0.6	12	180	4	8	1.8
BUK617-500AE	SOT227B	FREDFET	500	0.15	29	310	4	30	9
BUK617-500BE	SOT227B	FREDFET	500	0.18	27	310	4	30	9
BUK638-500A	SOT93	FREDFET	500	0.48	14.6	220	4	10	2.8
BUK638-500B	SOT93	FREDFET	500	0.6	13	220	4	10	2.8
BUK627-500A	SOT199	FREDFET	500	0.65	5.6	45	4	8	1.8
BUK657-500A	TO-220	FREDFET	500	0.65	10	150	4	8	1.8
BUK637-500A	SOT93	FREDFET	500	0.65	11	180	4	8	1.8
BUK627-500B	SOT199	FREDFET	500	0.8	4.8	45	4	8	1.8
BUK657-500B	TO-220	FREDFET	500	0.8	9	150	4	8	1.8
BUK637-500B	SOT93	FREDFET	500	0.8	10	180	4	8	1.8
BUK655-500A	TO-220	FREDFET	500	1.3	5.7	100	4	3.1	1
BUK655-500B	TO-220	FREDFET	500	1.5	5.3	100	4	3.1	1
BUK627-600A	SOT199	FREDFET	600	1	4.3	45	4	8	1.8
BUK657-600A	TO-220	FREDFET	600	1	8	150	4	8	1.8
BUK637-600A	SOT93	FREDFET	600	1	9	180	4	8	1.8
BUK627-600B	SOT199	FREDFET	600	1.2	3.9	45	4	8	1.8
BUK657-600B	TO-220	FREDFET	600	1.2	7.1	150	4	8	1.8
BUK637-600B	SOT93	FREDFET	600	1.2	7.8	180	4	8	1.8
BUK539-60A	SOT93	LOGIC	60	0.015	50	230	2	60	7.1
BUK556-60A	TO-220AB	LOGIC	60	0.026	50	150	2	30	2.8
BUK545-60A	SOT186	LOGIC	60	0.042	20	30	2	20	1.75
BUK575-60A	SOT186A	LOGIC	60	0.042	20	30	2	20	1.75
BUK555-60A	TO-220AB	LOGIC	60	0.042	39	125	2	20	1.75
BUK545-60B	SOT186	LOGIC	60	0.055	18	30	2	20	1.75
BUK575-60B	SOT186A	LOGIC	60	0.055	18	30	2	20	1.75
BUK555-60B	TO-220AB	LOGIC	60	0.055	35	125	2	20	1.75
BUK543-60A	SOT186	LOGIC	60	0.085	13	25	2	10	0.825
BUK573-60A	SOT186A	LOGIC	60	0.085	13	25	2	10	0.825
BUK553-60A	TO-220AB	LOGIC	60	0.085	21	75	2	10	0.825
BUK543-60B	SOT186	LOGIC	60	0.1	12	25	2	10	0.825
BUK573-60B	SOT186A	LOGIC	60	0.1	12	25	2	10	0.825
BUK553-60B	TO-220AB	LOGIC	60	0.1	20	75	2	10	0.825
BUK542-60A	SOT186	LOGIC	60	0.15	9.2	22	2	6.7	0.6
BUK572-60A	SOT186A	LOGIC	60	0.15	9.2	22	2	6.7	0.6
BUK552-60A	TO-220	LOGIC	60	0.15	14	60	2	6.7	0.6
BUK542-60B	SOT186	LOGIC	60	0.18	8.4	22	2	6.7	0.6
BUK572-60B	SOT186A	LOGIC	60	0.18	8.4	22	2	6.7	0.6
BUK552-60B	TO-220	LOGIC	60	0.18	13	60	2	6.7	0.6
BUK541-60A	SOT186	LOGIC	60	0.4	5	20	2	2.5	0.3
BUK551-60A	TO-220AB	LOGIC	60	0.4	5	40	2	2.5	0.3
BUK571-60A	SOT186A	LOGIC	60	0.4	5	20	2	2.5	0.3
BUK541-60B	SOT186	LOGIC	60	0.5	4.8	20	2	2.5	0.3
BUK571-60B	SOT186A	LOGIC	60	0.5	4.8	20	2	2.5	0.3
BUK551-60B	TO-220AB	LOGIC	60	0.5	5	40	2	2.5	0.3
BUK545-100A	SOT186	LOGIC	100	0.085	13	30	2	13.5	1.75

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK575-100A	SOT186A	LOGIC	100	0.085	13	30	2	13.5	1.75
BUK555-100A	TO-220	LOGIC	100	0.085	25	125	2	13.5	1.75
BUK545-100B	SOT186	LOGIC	100	0.11	12	30	2	13.5	1.75
BUK575-100B	SOT186A	LOGIC	100	0.11	12	30	2	13.5	1.75
BUK555-100B	TO-220	LOGIC	100	0.11	22	125	2	13.5	1.75
BUK543-100A	SOT186	LOGIC	100	0.18	8.3	25	2	8	0.825
BUK573-100A	SOT186A	LOGIC	100	0.18	8.3	25	2	8	0.825
BUK553-100A	TO-220	LOGIC	100	0.18	13	75	2	8	0.825
BUK543-100B	SOT186	LOGIC	100	0.22	7.5	25	2	8	0.825
BUK573-100B	SOT186A	LOGIC	100	0.22	7.5	25	2	8	0.825
BUK553-100B	TO-220	LOGIC	100	0.22	12	75	2	8	0.825
BUK542-100A	SOT186	LOGIC	100	0.28	6.3	22	2	6	0.6
BUK572-100A	SOT186A	LOGIC	100	0.28	6.3	22	2	6	0.6
BUK552-100A	TO-220	LOGIC	100	0.28	10	60	2	6	0.6
BUK542-100B	SOT186	LOGIC	100	0.35	5.6	22	2	6	0.6
BUK572-100B	SOT186A	LOGIC	100	0.35	5.6	22	2	6	0.6
BUK552-100B	TO-220	LOGIC	100	0.35	8.5	60	2	6	0.6
BUK541-100A	SOT186	LOGIC	100	0.85	3	20	2	2.2	0.3
BUK551-100A	TO-220AB	LOGIC	100	0.85	3	40	2	2.2	0.3
BUK571-100A	SOT186A	LOGIC	100	0.85	3	20	2	2.2	0.3
BUK541-100B	SOT186	LOGIC	100	1.1	3	20	2	2.2	0.3
BUK551-100B	TO-220AB	LOGIC	100	1.1	3	40	2	2.2	0.3
BUK571-100B	SOT186A	LOGIC	100	1.1	3	20	2	2.2	0.3
BUK545-200A	SOT186	LOGIC	200	0.23	7.6	30	2	15	2
BUK575-200A	SOT186A	LOGIC	200	0.23	7.6	30	2	15	2
BUK555-200A	TO-220	LOGIC	200	0.23	14	125	2	15	2
BUK545-200B	SOT186	LOGIC	200	0.28	7	30	2	15	2
BUK575-200B	SOT186A	LOGIC	200	0.28	7	30	2	15	2
BUK555-200B	TO-220	LOGIC	200	0.28	13	125	2	15	2
BUK554-200A	TO-220	LOGIC	200	0.4	9.2	90	2	6	1
BUK554-200B	TO-220	LOGIC	200	0.5	8.2	90	2	6	1
BUK995-60A	SOT263	LOGSEN	60	0.055	34	125	2	20	1.75
BUK993-60A	SOT263	LOGSEN	60	0.12	18	75	2	10	0.825
BUK439-60A	SOT93	MOSFET	60	0.013	50	230	4	42	6.5
BUK426-60A	SOT199	MOSFET	60	0.028	30	45	4	22	2
BUK436-60A	SOT93	MOSFET	60	0.028	50	125	4	22	2
BUK456-60A	TO-220	MOSFET	60	0.028	52	150	4	22	2
BUK426-60B	SOT199	MOSFET	60	0.03	30	45	4	22	2
BUK456-60B	TO-220	MOSFET	60	0.03	51	150	4	22	2
BUK436-60B	SOT93	MOSFET	60	0.033	46	125	4	22	2
BUK445-60A	SOT186	MOSFET	60	0.038	21	30	4	13.5	2
BUK475-60A	SOT186A	MOSFET	60	0.038	21	30	4	13.5	2
BUK455-60A	TO-220	MOSFET	60	0.038	41	125	4	13.5	2
BUK445-60B	SOT186	MOSFET	60	0.045	20	30	4	13.5	2
BUK475-60B	SOT186A	MOSFET	60	0.045	20	30	4	13.5	2
BUK455-60B	TO-220	MOSFET	60	0.045	38	125	4	13.5	2
BUK443-60A	SOT186	MOSFET	60	0.08	13	25	4	6.5	0.825
BUK473-60A	SOT186A	MOSFET	60	0.08	13	25	4	6.5	0.825
BUK453-60A	TO-220	MOSFET	60	0.08	22	75	4	6.5	0.825
BUK443-60B	SOT186	MOSFET	60	0.1	12	25	4	6.5	0.825
BUK473-60B	SOT186A	MOSFET	60	0.1	12	25	4	6.5	0.825

FET power devices

PowerMOS (cont.)

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK453-60B	TO-220	MOSFET	60	0.1	20	75	4	6.5	0.825
BUK442-60A	SOT186	MOSFET	60	0.13	10	22	4	4.7	0.5
BUK472-60A	SOT186A	MOSFET	60	0.13	10	22	4	4.7	0.5
BUK452-60A	TO-220	MOSFET	60	0.13	15	60	4	4.7	0.5
BUK442-60B	SOT186	MOSFET	60	0.15	9.2	22	4	4.7	0.5
BUK472-60B	SOT186A	MOSFET	60	0.15	9.2	22	4	4.7	0.5
BUK452-60B	TO-220	MOSFET	60	0.15	14	60	4	4.7	0.5
BUK441-60A	SOT186	MOSFET	60	0.4	5	20	4	1.9	0.24
BUK451-60A	TO-220AB	MOSFET	60	0.4	5	40	4	1.9	0.24
BUK471-60A	SOT186A	MOSFET	60	0.4	5	20	4	1.9	0.24
BUK441-60B	SOT186	MOSFET	60	0.5	4.8	20	4	1.9	0.24
BUK471-60B	SOT186A	MOSFET	60	0.5	4.8	20	4	1.9	0.24
BUK451-60B	TO-220AB	MOSFET	60	0.5	5	40	4	1.9	0.24
BUK416-100AE	SOT227B	MOSFET	100	0.013	110	310	4	70	10
BUK416-100BE	SOT227B	MOSFET	100	0.016	100	310	4	70	10
BUK426-100A	SOT199	MOSFET	100	0.057	20	45	4	16	2
BUK436-100A	SOT93	MOSFET	100	0.057	33	125	4	16	2
BUK456-100A	TO-220	MOSFET	100	0.057	34	150	4	16	2
BUK426-100B	SOT199	MOSFET	100	0.065	19	45	4	16	2
BUK436-100B	SOT93	MOSFET	100	0.065	31	125	4	16	2
BUK456-100B	TO-220	MOSFET	100	0.065	32	150	4	16	2
BUK445-100A	SOT186	MOSFET	100	0.08	14	30	4	13.5	2
BUK475-100A	SOT186A	MOSFET	100	0.08	14	30	4	13.5	2
BUK455-100A	TO-220	MOSFET	100	0.08	26	125	4	13.5	2
BUK445-100B	SOT186	MOSFET	100	0.1	12	30	4	13.5	2
BUK475-100B	SOT186A	MOSFET	100	0.1	12	30	4	13.5	2
BUK455-100B	TO-220	MOSFET	100	0.1	23	125	4	13.5	2
BUK443-100A	SOT186	MOSFET	100	0.16	9	25	4	5.5	0.825
BUK473-100A	SOT186A	MOSFET	100	0.16	9	25	4	5.5	0.825
BUK453-100A	TO-220	MOSFET	100	0.16	14	75	4	5.5	0.825
BUK443-100B	SOT186	MOSFET	100	0.2	8	25	4	5.5	0.825
BUK473-100B	SOT186A	MOSFET	100	0.2	8	25	4	5.5	0.825
BUK453-100B	TO-220	MOSFET	100	0.2	13	75	4	5.5	0.825
BUK442-100A	SOT186	MOSFET	100	0.25	6.6	22	4	4.2	0.5
BUK472-100A	SOT186A	MOSFET	100	0.25	6.6	22	4	4.2	0.5
BUK452-100A	TO-220	MOSFET	100	0.25	11	60	4	4.2	0.5
BUK442-100B	SOT186	MOSFET	100	0.3	6.1	22	4	4.2	0.5
BUK472-100B	SOT186A	MOSFET	100	0.3	6.1	22	4	4.2	0.5
BUK452-100B	TO-220	MOSFET	100	0.3	10	60	4	4.2	0.5
BUK441-100A	SOT186	MOSFET	100	0.85	3	20	4	1.7	0.24
BUK451-100A	TO-220AB	MOSFET	100	0.85	3	40	4	1.7	0.24
BUK471-100A	SOT186A	MOSFET	100	0.85	3	20	4	1.7	0.24
BUK441-100B	SOT186	MOSFET	100	1.1	3	20	4	1.7	0.24
BUK451-100B	TO-220AB	MOSFET	100	1.1	3	40	4	1.7	0.24
BUK471-100B	SOT186A	MOSFET	100	1.1	3	20	4	1.7	0.24
BUK416-200AE	SOT227B	MOSFET	200	0.035	63	310	4	55	10
BUK416-200BE	SOT227B	MOSFET	200	0.045	55	310	4	55	10
BUK426-200A	SOT199	MOSFET	200	0.16	11	45	4	16	2
BUK436-200A	SOT93	MOSFET	200	0.16	19	125	4	16	2
BUK456-200A	TO-220	MOSFET	200	0.16	19	150	4	16	2
BUK426-200B	SOT199	MOSFET	200	0.2	10	45	4	16	2

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK436-200B	SOT93	MOSFET	200	0.2	17	125	4	16	2
BUK456-200B	TO-220	MOSFET	200	0.2	17	150	4	16	2
BUK445-200A	SOT186	MOSFET	200	0.23	7.6	30	4	8.4	1.75
BUK475-200A	SOT186A	MOSFET	200	0.23	7.6	30	4	8.4	1.75
BUK455-200A	TO-220	MOSFET	200	0.23	14	125	4	8.4	1.75
BUK445-200B	SOT186	MOSFET	200	0.28	7	30	4	8.4	1.75
BUK475-200B	SOT186A	MOSFET	200	0.28	7	30	4	8.4	1.75
BUK455-200B	TO-220	MOSFET	200	0.28	13	125	4	8.4	1.75
BUK444-200A	SOT186	MOSFET	200	0.4	5.3	25	4	5	0.85
BUK474-200A	SOT186A	MOSFET	200	0.4	5.3	25	4	5	0.85
BUK454-200A	TO-220	MOSFET	200	0.4	9.2	90	4	5	0.85
BUK444-200B	SOT186	MOSFET	200	0.5	4.7	25	4	5	0.85
BUK474-200B	SOT186A	MOSFET	200	0.5	4.7	25	4	5	0.85
BUK454-200B	TO-220	MOSFET	200	0.5	8.2	90	4	5	0.85
BUK427-400A	SOT199	MOSFET	400	0.4	6.9	45	4	8	1.8
BUK457-400A	TO-220	MOSFET	400	0.4	13	150	4	8	1.8
BUK437-400A	SOT93	MOSFET	400	0.4	14	180	4	8	1.8
BUK427-400B	SOT199	MOSFET	400	0.5	6.2	45	4	8	1.8
BUK457-400B	TO-220	MOSFET	400	0.5	11	150	4	8	1.8
BUK437-400B	SOT93	MOSFET	400	0.5	12	180	4	8	1.8
BUK445-400A	SOT186	MOSFET	400	0.8	4	30	4	4.5	1
BUK475-400A	SOT186A	MOSFET	400	0.8	4	30	4	4.5	1
BUK455-400A	TO-220	MOSFET	400	0.8	7.3	100	4	4.5	1
BUK445-400B	SOT186	MOSFET	400	1	3.8	30	4	4.5	1
BUK475-400B	SOT186A	MOSFET	400	1	3.8	30	4	4.5	1
BUK455-400B	TO-220	MOSFET	400	1	6.5	100	4	4.5	1
BUK444-400A	SOT186	MOSFET	400	1.5	2.7	25	4	2.5	0.5
BUK474-400A	SOT186A	MOSFET	400	1.5	2.7	25	4	2.5	0.5
BUK454-400A	TO-220	MOSFET	400	1.5	4.6	75	4	2.5	0.5
BUK444-400B	SOT186	MOSFET	400	1.8	2.4	25	4	2.5	0.5
BUK474-400B	SOT186A	MOSFET	400	1.8	2.4	25	4	2.5	0.5
BUK454-400B	TO-220	MOSFET	400	1.8	4.2	75	4	2.5	0.5
BUK417-500AE	SOT227B	MOSFET	500	0.13	32	310	4	30	9
BUK417-500BE	SOT227B	MOSFET	500	0.16	28	310	4	30	9
BUK428-500A	SOT199	MOSFET	500	0.4	6.8	45	4	14	2.8
BUK438-500A	SOT93	MOSFET	500	0.4	15	220	4	12	2.8
BUK428-500B	SOT199	MOSFET	500	0.5	6.1	45	4	14	2.8
BUK438-500B	SOT93	MOSFET	500	0.5	13.5	220	4	12	2.8
BUK427-500A	SOT199	MOSFET	500	0.6	5.6	45	4	8	1.8
BUK457-500A	TO-220	MOSFET	500	0.6	10	150	4	8	1.8
BUK437-500A	SOT93	MOSFET	500	0.6	11	180	4	8	1.8
BUK427-500B	SOT199	MOSFET	500	0.8	4.8	45	4	8	1.8
BUK457-500B	TO-220	MOSFET	500	0.8	9	150	4	8	1.8
BUK437-500B	SOT93	MOSFET	500	0.8	10	180	4	8	1.8
BUK445-500A	SOT186	MOSFET	500	1.3	3.1	30	4	4.5	1
BUK475-500A	SOT186A	MOSFET	500	1.3	3.1	30	4	4.5	1
BUK455-500A	TO-220	MOSFET	500	1.3	5.7	100	4	4.5	1
BUK445-500B	SOT186	MOSFET	500	1.5	2.9	30	4	4.5	1
BUK475-500B	SOT186A	MOSFET	500	1.5	2.9	30	4	4.5	1
BUK455-500B	TO-220	MOSFET	500	1.5	5.3	100	4	4.5	1
BUK444-500A	SOT186	MOSFET	500	2.3	2.1	25	4	2.5	0.5

FET power devices

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK474-500A	SOT186A	MOSFET	500	2.3	2.1	25	4	2.5	0.5
BUK454-500A	TO-220	MOSFET	500	2.3	3.7	75	4	2.5	0.5
BUK444-500B	SOT186	MOSFET	500	2.8	1.9	25	4	2.5	0.5
BUK474-500B	SOT186A	MOSFET	500	2.8	1.9	25	4	2.5	0.5
BUK454-500B	TO-220	MOSFET	500	2.8	3.3	75	4	2.5	0.5
BUK453-500A	TO-220AB	MOSFET	500	6	1.7	50	4	1.1	0.3
BUK453-500B	TO-220AB	MOSFET	500	7	1.6	50	4	1.1	0.3
BUK427-600A	SOT199	MOSFET	600	1	4.3	45	4	8	1.8
BUK457-600A	TO-220	MOSFET	600	1	8	150	4	8	1.8
BUK437-600A	SOT93	MOSFET	600	1	9	180	4	8	1.8
BUK427-600B	SOT199	MOSFET	600	1.2	3.9	45	4	8	1.8
BUK457-600B	TO-220	MOSFET	600	1.2	7.1	150	4	8	1.8
BUK437-600B	SOT93	MOSFET	600	1.2	7.8	180	4	8	1.8
BUK445-600A	SOT186	MOSFET	600	2	2.5	30	4	4.5	1
BUK475-600A	SOT186A	MOSFET	600	2	2.5	30	4	4.5	1
BUK455-600A	TO-220	MOSFET	600	2	4.5	100	4	4.5	1
BUK445-600B	SOT186	MOSFET	600	2.5	2.2	30	4	4.5	1
BUK475-600B	SOT186A	MOSFET	600	2.5	2.2	30	4	4.5	1
BUK455-600B	TO-220	MOSFET	600	2.5	4	100	4	4.5	1
BUK444-600A	SOT186	MOSFET	600	4	1.6	25	4	2.5	0.5
BUK474-600A	SOT186A	MOSFET	600	4	1.6	25	4	2.5	0.5
BUK454-600A	TO-220	MOSFET	600	4	2.8	75	4	2.5	0.5
BUK444-600B	SOT186	MOSFET	600	4.5	1.5	25	4	2.5	0.5
BUK474-600B	SOT186A	MOSFET	600	4.5	1.5	25	4	2.5	0.5
BUK454-600B	TO-220	MOSFET	600	4.5	2.6	75	4	2.5	0.5
BUK428-800A	SOT199	MOSFET	800	1.5	3.4	45	4	6	3.5
BUK438-800A	SOT93	MOSFET	800	1.5	7.6	220	4	7.5	3
BUK428-800B	SOT199	MOSFET	800	2	3	45	4	6	3.5
BUK438-800B	SOT93	MOSFET	800	2	6.6	220	4	7.5	3
BUK446-800A	SOT186	MOSFET	800	3	2	30	4	4.3	1.25
BUK476-800A	SOT186A	MOSFET	800	3	2	30	4	4.3	1.25
BUK426-800A	SOT199	MOSFET	800	3	2.4	45	4	4.3	1.25
BUK436-800A	SOT93	MOSFET	800	3	4	125	4	4.3	1.25
BUK456-800A	TO-220	MOSFET	800	3	4	125	4	4.3	1.25
BUK446-800B	SOT186	MOSFET	800	4	1.7	30	4	4.3	1.25
BUK476-800B	SOT186A	MOSFET	800	4	1.7	30	4	4.3	1.25
BUK426-800B	SOT199	MOSFET	800	4	2.1	45	4	4.3	1.25
BUK436-800B	SOT93	MOSFET	800	4	3.5	125	4	4.3	1.25
BUK456-800B	TO-220	MOSFET	800	4	3.5	125	4	4.3	1.25
BUK444-800A	SOT186	MOSFET	800	6	1.4	30	4	2.3	0.75
BUK474-800A	SOT186A	MOSFET	800	6	1.4	30	4	2.3	0.75
BUK454-800A	TO-220	MOSFET	800	6	2.4	85	4	2.3	0.75
BUK444-800B	SOT186	MOSFET	800	8	1.2	30	4	2.3	0.75
BUK474-800B	SOT186A	MOSFET	800	8	1.2	30	4	2.3	0.75
BUK454-800B	TO-220	MOSFET	800	8	2	85	4	2.3	0.75
BUK416-1000AE	SOT227B	MOSFET	1000	0.8	12.2	310	4	20	6.25
BUK416-1000BE	SOT227B	MOSFET	1000	1	10.9	310	4	20	6.25
BUK428-1000A	SOT199	MOSFET	1000	2	2.9	45	4	5	3.5
BUK438-1000A	SOT93	MOSFET	1000	2	6.5	220	4	5	3.5
BUK428-1000B	SOT199	MOSFET	1000	2.6	2.6	45	4	5	3.5

typenumber	outline	FET-appl	$V_{DS\text{-}max}$ V	$R_{DS(on)}$ max Ohm	$I_{D\text{-}max}$ A	P_{max} W	$V_{GS(th)}$ max V	g_{fs} typ S	C_{iss} max nF
BUK438-1000B	SOT93	MOSFET	1000	2.6	5.7	220	4	5	3.5
BUK446-1000A	SOT186	MOSFET	1000	4	1.7	30	4	4.3	1.25
BUK476-1000A	SOT186A	MOSFET	1000	4	1.7	30	4	4.3	1.25
BUK426-1000A	SOT199	MOSFET	1000	4	2.1	45	4	4.3	1.25
BUK436-1000A	SOT93	MOSFET	1000	4	3.5	125	4	4.3	1.25
BUK456-1000A	TO-220	MOSFET	1000	4	3.5	125	4	4.3	1.25
BUK446-1000B	SOT186	MOSFET	1000	5	1.5	30	4	4.3	1.25
BUK476-1000B	SOT186A	MOSFET	1000	5	1.5	30	4	4.3	1.25
BUK426-1000B	SOT199	MOSFET	1000	5	1.9	45	4	4.3	1.25
BUK436-1000B	SOT93	MOSFET	1000	5	3.1	125	4	4.3	1.25
BUK456-1000B	TO-220	MOSFET	1000	5	3.1	125	4	4.3	1.25
BUK795-60A	SOT263	SENSOR	60	0.045	38	125	4	14	2
BUK793-60A	SOT263	SENSOR	60	0.1	20	75	4	6.5	0.825

FET power devices

RF PowerMOS

typenumber	outline	P_{Load} W	@ f MHz	@ V_{DS} V	G_p min dB	Tx mode	class	$V_{DS\text{-}max}$ V	$I_{D\text{-}max}$ A	P_{max} W	d_3 dB
BLF221	TO-39	2	175	12.5	10	cw	B	40	0.4	8	
BLF241	SOT5/11	2	175	12.5	10	cw	AB	65	0.5	6.5	
BLF241E	TO-39	2	175	12.5	13	cw	AB	65	0.5	12	
BLF521	SOT172D	2	500	12.5	10	cw	B	40	0.4	10	
BLF242	SOT123	5	175	28	13	cw	B	65	0.5	16	
BLF522	SOT171	5	500	12.5	10	cw	B	40	1	15	
BLF145	SOT123	8	28	28	24	ssb	A	65	3	68	-40
BLF175	SOT123	8	28	50	24	ssb	A	110	1.5	68	-40
BLF543	SOT171	10	500	28	12	cw	B	65	1	25	
BLF244	SOT123	15	175	28	13	cw	B	65	1.5	38	
BLF544	SOT171	20	500	28	11	cw	B	65	2	48	
BLF544B	SOT268	20	500	28	12	cw	B	65	1	48	
BLF346	SOT119	25	224.25	28	14	cw	A	65	7	130	
BLF225	SOT123	30	175	12.5	8.5	cw	B	40	8	68	
BLF245	SOT123	30	175	28	13	cw	B	65	3	68	
BLF245B	SOT279	30	175	28	14	cw	B	65	1.5	75	
BLF545	SOT268	40	500	28	11	cw	B	65	2	92	
BLF246B	SOT161	60	175	28	14	cw	B	65	3	130	
BLF348	SOT262	67	224.25	28	11	cw	A	65	13	500	
BLF246	SOT121	80	108	28	16	cw	B	65	7	130	
BLF546	SOT268	80	500	28	11	cw	B	65	4	145	
BLF547	SOT262A2	100	500	28	10	cw	B	65	5	225	
BLF147	SOT121	150	28	28	17	ssb	AB	65	13	220	-30
BLF177	SOT121	150	28	50	20	ssb	AB	110	7	220	-30
BLF277	SOT119	150	175	50	14	cw	B	110	16	220	
BLF548	SOT262	150	500	28	10	cw	B	65	8	250	
BLF378	SOT262	250	225	50	14	cw	AB	110	7	500	
BLF278	SOT262A1	300	108	50	20	cw	B	110	7	500	
BLF248	SOT262	300	225	28	10	cw	AB	65	40	500	
BLF368	SOT262	300	225	32	12	cw	AB	65	13	500	

Tuning

Varicap diodes

typenumber	outline	C_d min pF	@ V_R V	$C_{d1/C\,d2min}$	@ f MHz	@ V_1 V	@ V_2 V	$V_{R\text{-}max}$ V	$I_{F\text{-}max}$ mA	near-conv-type
BB215	SOD80		1	7.6	0.5	1	28	30	20	BB405B
BB405B	DO-34		1	7.6	0.5	1	28	30	20	
BBY31 €	SOT23	1.6	28		1	1	28	28	20	BB405G
BBY62	SOT143	1.6	28		1	1	28	28	20	
BBY39	SOT23	1.6	28	7.6	1	1	28	30	20	
BB811	SOD123	7.8	1	7.8	1	1	28	30	20	
BB417	DO-34	8	4	2	0.5	4	15	20	20	
BB515	SOD123	16	1	8	1	1	28	30	20	
BB119	DO-35	20	4	1.3	300	4	10	15	200	
BBY42	SOT23	31	1	12	1	1	28	32	20	BB909A
BB909A	DO-34	31	1	12	0.5	1	28	32	20	
BB909B	DO-34	33.5	1	12	0.5	1	28	32	20	
BB619	SOD123	33.5	1	12.5	1	1	28	30	20	
BB204G	TO-92	34	3	2.5	1	3	30	30	100	
BB204B	TO-92	37	3	2.5	1	3	30	30	100	
BB910	DO-34	38	0.5	14	1	0.5	28	32	20	
BBY40	SOT23	39	1	8	1	1	28	28	20	BB809
BB809	DO-34	39	1	8	0.5	1	28	28	20	
BB804	SOT23	42	2	1.65	1	2	8	18	50	
BB620	SOD123	62	1	19.5	1	1	28	30	20	
BB911	DO-34	63	0.5	21	1	0.5	28	32	20	
BB112	SOD69	440	1	18	1	1	8.5	12	50	
BB130	SOD69	450	1	23	1	1	28	30	50	
BB212	TO-92	500	0.5	22.5	1	0.5	8	12	100	

Varicap diodes

Band switching

typenumber	outline	C_d max pF	@ V_R V	@ f_1 MHz	@ f_2 MHz	$V_{R\text{-max}}$ V	$I_{F\text{-max}}$ mA	$r_{D\text{-max}}$ Ohm	@ I_F mA	@ f MHz	V_F max mV	@ I_F mA
BAT18	SOT23	1	20	1		35	100	0.7	5	200	1200	100
BA483	DO-34	1	3	1	100	35	100	1.2	3	200	1200	100
BA481	DO-34	1.1	0	1		4	30	13	5	0.001	450	1
BA582	SOD123	1.1	3	1	100	35	100	0.7	3	200	1100	100
BA281	DO-35	1.2	0	1		50	200				420	0.01
BA482	DO-34	1.2	3	1	100	35	100	0.7	3	200	1200	100
BA683	SOD80	1.2	3	1		35	100	1.2	3	200	1000	100
BA682	SOD80	1.25	3	1		35	100	0.7	3	200	1000	100
BA484	DO-34	1.6	3	1	100	35	100	1.2	3	200	1200	100
BA423	DO-34	2.5	3	1		20	50	1.2	10	1	900	50
BA423L	SOD80	2.5	3	1		20	50	1.2	10	1	900	50

Signal

typenumber	outline	$V_{R\text{-max}}$	$I_{F\text{-max}}$	V_F max	@ I_F	$t_{rr\text{-max}}$	C_d max	@ V_R	I_R max	@ V_R	near-conv-type
		V	mA	V	mA	ns	pF	V	uA	V	
BAT17 €	SOT23	4	30	0.6	10		1	0	1.25	3	BA481
BA316	DO-35	10	100	1.1	100	4	2	0	0.2	10	
BA220(1)	DO-35	10	200	0.95	100	4	2.5	0	1.5	10	
BAX14(1)	DO-35	20	500	1.5	2000	50	35	0	100	20	
BYV10-20	DO-41	20	1000	0.85	3000	30			1000	20	
PMBD2837	SOT23	30	50	1.2	100	15	4	0	0.1	30	
BA317	DO-35	30	100	1.1	100	4	2	0	0.2	30	
PMBD2835	SOT23	30	100	1.2	100	15	4	0	0.1	30	
BAS85	SOD80	30	200	0.8	100	5	10	1	2	25	BAT85
BAT54	SOT23	30	200	1	100	5	10	1	2	25	BAT85
BAT54A	SOT23	30	200	1	100	5	10	1	2	25	
BAT54C	SOT23	30	200	1	100	5	10	1	2	25	
BAT54S	SOT23	30	200	1	100	5	10	1	2	25	
BAT74	SOT143	30	200	1	100	5	10	1	2	25	BAT85
BAT85 €	DO-34	30	200	0.8	100	5	10	1	2	30	
BA221	DO-35	30	200	1.05	200	4	2.5	0	0.2	30	
BYV10-30	DO-41	30	1000	0.85	3000	30			1000	30	
BAS81	SOD80C	40	30	0.41	1		1.6	1	0.2	40	
BAT81	DO-34	40	30	1	15	1	1.6	1	0.2	30	
BYV10-40	DO-41	40	1000	0.85	3000	30			1000	40	
BAS82	SOD80C	50	30	0.41	1		1.6	1	0.2	50	
BAT82	DO-34	50	30	1	15	1	1.6	1	0.2	30	
PMBD2838	SOT23	50	50	1.2	100	15	4	0	0.1	50	
BAS15 €	DO-34	50	100	1.1	100	4	2	0	0.2	50	
BA318	DO-35	50	100	1.1	100	4	2	0	0.2	50	
BAS86	SOD80	50	200	0.9	100	4	8	1	5	40	
BAT86 €	DO-34	50	200	0.9	100	4	8	1	5	40	
PMLL4151	SOD80	50	200	1	50	4	2	0	50	50	
PMLL4153	SOD80	50	200	0.88	20	4	2	0	50	50	
1N4151	DO-35	50	200	1	50	4	2	0	50	50	
1N4153	DO-35	50	200	0.88	20	4	2	0	50	50	
BAL74	SOT23	50	250	1	50	6	2	0	0.1	50	
BAV100	SOD80	50	250	1.25	200	50	5	0	100	50	BAV18
BAV18 €	DO-35	50	250	1.25	200	50	5	0	100	60	
BAV74	SOT23	50	250	1	100	4	2	0	100	50	
PMLL4150	SOD80	50	300	1	200	6	2.5	0	100	50	
1N4150	DO-35	50	300	1	200	6	2.5	0	100	50	
BAS83	SOD80C	60	30	0.41	1		1.6	1	0.2	60	
BAT83	DO-34	60	30	1	15	1	1.6	1	0.2	30	
BAS56	SOT143	60	200	1.25	500	6	2.5	0	100	60	BAV10
BAS55	SOT23	60	250	1	200	6	2.5	0	0.1	60	
BAV10	DO-35	60	300	1.25	500	6	2.5	0	100	60	
BAV105	SOD80	60	300	1.25	500	6	2.5	0	100	60	
PMBD2836	SOT23	70	100	1.2	100	15	4	0	0.1	50	
PMBD6050	SOT23	70	200	1.1	100	15	2.5	0	0.1	50	
PMBD6100	SOT23	70	200	1.1	100	15	2.5	0	0.1	50	
PMBD914	SOT23	70	200	1	10	15	4	0	5	75	
BAV70	SOT23	70	215	1.25	150	6	1.5	0	100	70	2 x BAW62
BAV99	SOT23	70	215	1.25	150	6	1.5	0	50	70	2 X BAW62
BAL99	SOT23	70	250	1	50	6	1.5	0	1	70	
BAW56	SOT23	70	250	1.25	150	6	2	0	50	70	2 X BAW62

Signal

Signal (cont.)

typenumber	outline	$V_{R\text{-max}}$ V	$I_{F\text{-max}}$ mA	V_F max V	@ I_F mA	$t_{rr\text{-max}}$ ns	C_d max pF	@ V_R V	I_R max uA	@ V_R V	near-conv-type
1N914 €	DO-35	75	75	1	10	4	4	0	50	20	
1N916 €	DO-35	75	75	1	10	4	2	0	50	20	
BAS32	SOD80	75	200	0.93	100	4	2	0	100	75	BAW62
BAS32L	SOD80C	75	200	1	100	4	2	0	100	75	
BAW62 €	DO-35	75	200	1	100	4	2	0	100	75	
PMLL4148	SOD80	75	200	1	10	4	4	0	50	20	
PMLL4446	SOD80	75	200	1	20	4	4	0	50	20	
PMLL4448	SOD80	75	200	1	100	4	4	0	3	20	
1N4148 €	DO-35	75	200	1	10	4	4	0	50	20	
1N4446 €	DO-35	75	200	1	20	4	4	0	50	20	
1N4448 €	DO-35	75	200	1	100	4	4	0	3	20	
1N4531 €	DO-34	75	200	1	10	4	4	0	50	20	
1N4532 €	DO-34	75	200	1	10	2	2	0	100	50	
BAS16	SOT23	75	250	1.25	150	6	2	0	50	75	BAW62
BAS28 €	SOT143	75	250	1.25	150	6	2	0	50	75	2 X BAW62
BAX18	DO-35	75	500	1.5	2000	50	35	0	100	75	
BAS678	SOT23	80	250	1	200	6	2	0	0.1	75	
BAS29	SOT23	90	250	1.25	400	50	35	0	100	90	BAX12
BAS31	SOT23	90	250	1.25	400	50	35	0	100	90	2 X BAX12
BAS35	SOT23	90	250	1.25	400	50	35	0	100	90	2 X BAX12
BAX12	DO-35	90	400	1.25	400	50	35	0	100	90	BAS35
BAS19	SOT23	100	200	1.25	200	50	5	0	100	100	BAV19
PMBD7000	SOT23	100	200	1.1	100	15	1.5	0	100	50	
BAV101	SOD80	100	250	1.25	200	50	5	0	100	100	BAV19
BAV19 €	DO-35	100	250	1.25	200	50	5	0	100	120	
BAY80	DO-35	120	250	1.07	150	50	6	0	100	120	
BAS45	DO-34	125	225	1	200		8	0	0.001	125	
BAS45L	SOD80	125	225	1	200		8	0	0.001	125	
BAS20	SOT23	150	200	1.25	200	50	5	0	100	150	BAV20
BAV102	SOD80	150	250	1.25	200	50	5	0	100	150	BAV20
BAV20 €	DO-35	150	250	1.25	200	50	5	0	100	200	
BAS21	SOT23	200	200	1.25	200	50	5	0	100	200	BAV21
BAV103	SOD80	200	250	1.25	200	50	5	0	100	200	BAV21
BAV21 €	DO-35	200	250	1.25	200	50	5	0	100	250	
BAS11	SOD91	300	350	1.3	900	1000	20	0	0.25	300	
BAS12	SOD91	400	350	1.3	900	1000	20	0	0.25	400	

typenumber	V_{RWM} max kV	$I_{F(AV)/oil}$ A	$I_{F(AV)/air}$ A	application	mult-dio-confi
OSM9115-4	3	6	3.5	THREE-PHASE	SCCT
OSB9115-4	3	12	7	TWO-PHASE	CCMD
OSM9215-4	3	20	5	THREE-PHASE	SCCT
OSM9415-4	3	30	10	THREE-PHASE	SCCT
OSB9215-4	3	40	10	TWO-PHASE	CCMD
OSB9415-4	3	60	20	TWO-PHASE	CCMD
OSM9115-6	4.5	6	3.5	THREE-PHASE	SCCT
OSB9115-6	4.5	12	7	TWO-PHASE	CCMD
OSM9215-6	4.5	20	5	THREE-PHASE	SCCT
OSS9215-3	4.5	20	5	SINGLE-PHASE	SCMD
OSM9415-6	4.5	30	10	THREE-PHASE	SCCT
OSS9415-3	4.5	30	10	SINGLE-PHASE	SCMD
OSB9215-6	4.5	40	10	TWO-PHASE	CCMD
OSB9415-6	4.5	60	20	TWO-PHASE	CCMD
OSM9510-12	6		1.5		
OSM9115-8	6	6	3.5	THREE-PHASE	SCCT
OSB9115-8	6	12	7	TWO-PHASE	CCMD
OSM9215-8	6	20	5	THREE-PHASE	SCCT
OSS9215-4	6	20	5	SINGLE-PHASE	SCMD
OSM9415-8	6	30	10	THREE-PHASE	SCCT
OSS9415-4	6	30	10	SINGLE-PHASE	SCMD
OSB9215-8	6	40	10	TWO-PHASE	CCMD
OSB9415-8	6	60	20	TWO-PHASE	CCMD
OSM9115-10	7.5	6	3.5	THREE-PHASE	SCCT
OSB9115-10	7.5	12	7	TWO-PHASE	CCMD
OSM9215-10	7.5	20	5	THREE-PHASE	SCCT
OSS9215-5	7.5	20	5	SINGLE-PHASE	SCMD
OSM9415-10	7.5	30	10	THREE-PHASE	SCCT
OSS9415-5	7.5	30	10	SINGLE-PHASE	SCMD
OSB9215-10	7.5	40	10	TWO-PHASE	CCMD
OSB9415-10	7.5	60	20	TWO-PHASE	CCMD
OSM9115-12	9	6	3.5	THREE-PHASE	SCCT
OSB9115-12	9	12	7	TWO-PHASE	CCMD
OSM9215-12	9	20	5	THREE-PHASE	SCCT
OSS9215-6	9	20	5	SINGLE-PHASE	SCMD
OSM9415-12	9	30	10	THREE-PHASE	SCCT
OSS9415-6	9	30	10	SINGLE-PHASE	SCMD
OSB9215-12	9	40	10	TWO-PHASE	CCMD
OSB9415-12	9	60	20	TWO-PHASE	CCMD
OSM9115-14	10.5	6	3.5	THREE-PHASE	SCCT
OSB9115-14	10.5	12	7	TWO-PHASE	CCMD
OSM9215-14	10.5	20	5	THREE-PHASE	SCCT
OSS9215-7	10.5	20	5	SINGLE-PHASE	SCMD
OSM9415-14	10.5	30	10	THREE-PHASE	SCCT
OSS9415-7	10.5	30	10	SINGLE-PHASE	SCMD
OSB9215-14	10.5	40	10	TWO-PHASE	CCMD
OSB9415-14	10.5	60	20	TWO-PHASE	CCMD
OSM9115-16	12	6	3.5	THREE-PHASE	SCCT
OSB9115-16	12	12	7	TWO-PHASE	CCMD
OSM9215-16	12	20	5	THREE-PHASE	SCCT
OSS9215-8	12	20	5	SINGLE-PHASE	SCMD

Rectifier diodes

EHT power stack (cont.)

typenumber	V_{RWM} max kV	$I_{F(AV)/oil}$ A	$I_{F(AV)/air}$ A	application	mult-dio-confi
OSM9415-16	12	30	10	THREE-PHASE	SCCT
OSS9415-8	12	30	10	SINGLE-PHASE	SCMD
OSB9215-16	12	40	10	TWO-PHASE	CCMD
OSB9415-16	12	60	20	TWO-PHASE	CCMD
OSM9115-18	13.5	6	3.5	THREE-PHASE	SCCT
OSB9115-18	13.5	12	7	TWO-PHASE	CCMD
OSM9215-18	13.5	20	5	THREE-PHASE	SCCT
OSS9215-9	13.5	20	5	SINGLE-PHASE	SCMD
OSM9415-18	13.5	30	10	THREE-PHASE	SCCT
OSS9415-9	13.5	30	10	SINGLE-PHASE	SCMD
OSB9215-18	13.5	40	10	TWO-PHASE	CCMD
OSB9415-18	13.5	60	20	TWO-PHASE	CCMD
OSM9115-20	15	6	3.5	THREE-PHASE	SCCT
OSS9115-10	15	6	3.5	SINGLE-PHASE	SCMD
OSB9115-20	15	12	7	TWO-PHASE	CCMD
OSM9215-20	15	20	5	THREE-PHASE	SCCT
OSS9215-10	15	20	5	SINGLE-PHASE	SCMD
OSM9415-20	15	30	10	THREE-PHASE	SCCT
OSS9415-10	15	30	10	SINGLE-PHASE	SCMD
OSB9215-20	15	40	10	TWO-PHASE	CCMD
OSB9415-20	15	60	20	TWO-PHASE	CCMD
OSM9115-22	16.5	6	3.5	THREE-PHASE	SCCT
OSS9115-11	16.5	6	3.5	SINGLE-PHASE	SCMD
OSB9115-22	16.5	12	7	TWO-PHASE	CCMD
OSM9215-22	16.5	20	5	THREE-PHASE	SCCT
OSS9215-11	16.5	20	5	SINGLE-PHASE	SCMD
OSM9415-22	16.5	30	10	THREE-PHASE	SCCT
OSS9415-11	16.5	30	10	SINGLE-PHASE	SCMD
OSB9215-22	16.5	40	10	TWO-PHASE	CCMD
OSB9415-22	16.5	60	20	TWO-PHASE	CCMD
OSM9115-24	18	6	3.5	THREE-PHASE	SCCT
OSS9115-12	18	6	3.5	SINGLE-PHASE	SCMD
OSB9115-24	18	12	7	TWO-PHASE	CCMD
OSM9215-24	18	20	5	THREE-PHASE	SCCT
OSS9215-12	18	20	5	SINGLE-PHASE	SCMD
OSM9415-24	18	30	10	THREE-PHASE	SCCT
OSS9415-12	18	30	10	SINGLE-PHASE	SCMD
OSB9215-24	18	40	10	TWO-PHASE	CCMD
OSB9415-24	18	60	20	TWO-PHASE	CCMD
OSM9115-26	19.5	6	3.5	THREE-PHASE	SCCT
OSS9115-13	19.5	6	3.5	SINGLE-PHASE	SCMD
OSB9115-26	19.5	12	7	TWO-PHASE	CCMD
OSM9215-26	19.5	20	5	THREE-PHASE	SCCT
OSS9215-13	19.5	20	5	SINGLE-PHASE	SCMD
OSM9415-26	19.5	30	10	THREE-PHASE	SCCT
OSS9415-13	19.5	30	10	SINGLE-PHASE	SCMD
OSB9215-26	19.5	40	10	TWO-PHASE	CCMD
OSB9415-26	19.5	60	20	TWO-PHASE	CCMD
OSM9115-28	21	6	3.5	THREE-PHASE	SCCT
OSS9115-14	21	6	3.5	SINGLE-PHASE	SCMD
OSB9115-28	21	12	7	TWO-PHASE	CCMD

typenumber	V_{RWM} max kV	$I_{F(AV)/oil}$ A	$I_{F(AV)/air}$ A	application	mult-dio-confi
OSM9215-28	21	20	5	THREE-PHASE	SCCT
OSS9215-14	21	20	5	SINGLE-PHASE	SCMD
OSM9415-28	21	30	10	THREE-PHASE	SCCT
OSS9415-14	21	30	10	SINGLE-PHASE	SCMD
OSB9215-28	21	40	10	TWO-PHASE	CCMD
OSB9415-28	21	60	20	TWO-PHASE	CCMD
OSM9115-30	22.5	6	3.5	THREE-PHASE	SCCT
OSS9115-15	22.5	6	3.5	SINGLE-PHASE	SCMD
OSB9115-30	22.5	12	7	TWO-PHASE	CCMD
OSM9215-30	22.5	20	5	THREE-PHASE	SCCT
OSS9215-16	22.5	20	5	SINGLE-PHASE	SCMD
OSM9415-30	22.5	30	10	THREE-PHASE	SCCT
OSS9415-16	22.5	30	10	SINGLE-PHASE	SCMD
OSB9215-30	22.5	40	10	TWO-PHASE	CCMD
OSB9415-30	22.5	60	20	TWO-PHASE	CCMD
OSM9115-32	24	6	3.5	THREE-PHASE	SCCT
OSS9115-16	24	6	3.5	SINGLE-PHASE	SCMD
OSB9115-32	24	12	7	TWO-PHASE	CCMD
OSM9215-32	24	20	5	THREE-PHASE	SCCT
OSS9215-15	24	20	5	SINGLE-PHASE	SCMD
OSM9415-32	24	30	10	THREE-PHASE	SCCT
OSS9415-15	24	30	10	SINGLE-PHASE	SCMD
OSB9215-32	24	40	10	TWO-PHASE	CCMD
OSB9415-32	24	60	20	TWO-PHASE	CCMD
OSM9115-34	25.5	6	3.5	THREE-PHASE	SCCT
OSS9115-17	25.5	6	3.5	SINGLE-PHASE	SCMD
OSB9115-34	25.5	12	7	TWO-PHASE	CCMD
OSM9215-34	25.5	20	5	THREE-PHASE	SCCT
OSS9215-17	25.5	20	5	SINGLE-PHASE	SCMD
OSM9415-34	25.5	30	10	THREE-PHASE	SCCT
OSS9415-17	25.5	30	10	SINGLE-PHASE	SCMD
OSB9215-34	25.5	40	10	TWO-PHASE	CCMD
OSB9415-34	25.5	60	20	TWO-PHASE	CCMD
OSM9115-36	27	6	3.5	THREE-PHASE	SCCT
OSS9115-18	27	6	3.5	SINGLE-PHASE	SCMD
OSB9115-36	27	12	7	TWO-PHASE	CCMD
OSM9215-36	27	20	5	THREE-PHASE	SCCT
OSS9215-18	27	20	5	SINGLE-PHASE	SCMD
OSM9415-36	27	30	10	THREE-PHASE	SCCT
OSS9415-18	27	30	10	SINGLE-PHASE	SCMD
OSB9215-36	27	40	10	TWO-PHASE	CCMD
OSB9415-36	27	60	20	TWO-PHASE	CCMD
OSS9115-19	28.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-19	28.5	20	5	SINGLE-PHASE	SCMD
OSS9415-19	28.5	30	10	SINGLE-PHASE	SCMD
OSS9115-20	30	6	3.5	SINGLE-PHASE	SCMD
OSS9215-20	30	20	5	SINGLE-PHASE	SCMD
OSS9415-20	30	30	10	SINGLE-PHASE	SCMD
OSS9115-21	31.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-21	31.5	20	5	SINGLE-PHASE	SCMD
OSS9415-21	31.5	30	10	SINGLE-PHASE	SCMD

Rectifier diodes

EHT power stack (cont.)

typenumber	V_{RWM} max kV	$I_{F(AV)/oil}$ A	$I_{F(AV)/air}$ A	application	mult-dio-confi
OSS9115-22	33	6	3.5	SINGLE-PHASE	SCMD
OSS9215-22	33	20	5	SINGLE-PHASE	SCMD
OSS9415-22	33	30	10	SINGLE-PHASE	SCMD
OSS9115-23	34.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-23	34.5	20	5	SINGLE-PHASE	SCMD
OSS9415-23	34.5	30	10	SINGLE-PHASE	SCMD
OSS9115-24	36	6	3.5	SINGLE-PHASE	SCMD
OSS9215-24	36	20	5	SINGLE-PHASE	SCMD
OSS9415-24	36	30	10	SINGLE-PHASE	SCMD
OSS9115-25	37.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-25	37.5	20	5	SINGLE-PHASE	SCMD
OSS9415-25	37.5	30	10	SINGLE-PHASE	SCMD
OSS9115-26	39	6	3.5	SINGLE-PHASE	SCMD
OSS9215-26	39	20	5	SINGLE-PHASE	SCMD
OSS9415-26	39	30	10	SINGLE-PHASE	SCMD
OSS9115-27	40.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-27	40.5	20	5	SINGLE-PHASE	SCMD
OSS9415-27	40.5	30	10	SINGLE-PHASE	SCMD
OSS9115-28	42	6	3.5	SINGLE-PHASE	SCMD
OSS9215-28	42	20	5	SINGLE-PHASE	SCMD
OSS9415-28	42	30	10	SINGLE-PHASE	SCMD
OSS9115-29	43.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-29	43.5	20	5	SINGLE-PHASE	SCMD
OSS9415-29	43.5	30	10	SINGLE-PHASE	SCMD
OSS9115-30	45	6	3.5	SINGLE-PHASE	SCMD
OSS9215-30	45	20	5	SINGLE-PHASE	SCMD
OSS9415-30	45	30	10	SINGLE-PHASE	SCMD
OSS9115-31	46.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-31	46.5	20	5	SINGLE-PHASE	SCMD
OSS9415-31	46.5	30	10	SINGLE-PHASE	SCMD
OSS9115-32	48	6	3.5	SINGLE-PHASE	SCMD
OSS9215-32	48	20	5	SINGLE-PHASE	SCMD
OSS9415-32	48	30	10	SINGLE-PHASE	SCMD
OSS9115-33	49.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-33	49.5	20	5	SINGLE-PHASE	SCMD
OSS9415-33	49.5	30	10	SINGLE-PHASE	SCMD
OSS9115-34	51	6	3.5	SINGLE-PHASE	SCMD
OSS9215-34	51	20	5	SINGLE-PHASE	SCMD
OSS9415-34	51	30	10	SINGLE-PHASE	SCMD
OSS9115-35	52.5	6	3.5	SINGLE-PHASE	SCMD
OSS9215-35	52.5	20	5	SINGLE-PHASE	SCMD
OSS9415-35	52.5	30	10	SINGLE-PHASE	SCMD
OSS9115-36	54	6	3.5	SINGLE-PHASE	SCMD
OSS9215-36	54	20	5	SINGLE-PHASE	SCMD
OSS9415-36	54	30	10	SINGLE-PHASE	SCMD

Single rectifiers

Rectifier diodes

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
PRLL5817	SOD87	20	1		25	0.45	1		70	
PRLL5818	SOD87	30	1		25	0.55	1		50	
BYV139-30	TO-220AC	30	16		150	0.6	15	260	520	
PBYR735	TO-220AC	35	7.5		135	0.57	7.5	15		
PBYR735F	SOT186	35	7.5		135	0.57	7.5	15		
BYV118-35	TO-220AB	35	10		100	0.6	5	90	200	
PBYR1035	TO-220AC	35	10		135	0.57	10	20		
PBYR1035F	SOT186	35	10		135	0.57	10	20		
BYV120-35	DO-4	35	15		300	0.6	15	260	520	
BYV120-35M	DO-4	35	15		300	0.6	15	260	520	
PBYR1635	TO-220AC	35	16		135	0.57	16	32		
PBYR1635F	SOT186	35	16		135	0.57	16	32		
BYV139-35	TO-220AC	35	16		150	0.6	15	260	520	
BYV121-35	DO-4	35	30		600	0.6	34	500	1150	
BYV121-35M	DO-4	35	30		600	0.6	34	500	1150	
PRLL5819	SOD87	40	1		25	0.6	1		50	
PBYR740	TO-220AC	40	7.5		135	0.57	7.5	15		
PBYR740F	SOT186	40	7.5		135	0.57	7.5	15		
BYV118-40	TO-220AB	40	10		100	0.6	5	90	200	
PBYR1040	TO-220AC	40	10		135	0.57	10	20		
PBYR1040F	SOT186	40	10		135	0.57	10	20		
BYV120-40	DO-4	40	15		300	0.6	15	260	520	
BYV120-40M	DO-4	40	15		300	0.6	15	260	520	
PBYR1640	TO-220AC	40	16		135	0.57	16	32		
PBYR1640F	SOT186	40	16		135	0.57	16	32		
BYV139-40	TO-220AC	40	16		150	0.6	15	260	520	
BYV121-40	DO-4	40	30		600	0.6	34	500	1150	
BYV121-40M	DO-4	40	30		600	0.6	34	500	1150	
PBYR745	TO-220AC	45	7.5		135	0.57	7.5	15		
PBYR745F	SOT186	45	7.5		135	0.57	7.5	15		
BYV118-45	TO-220AB	45	10		100	0.6	5	90	200	
PBYR1045	TO-220AC	45	10		135	0.57	10	20		
PBYR1045F	SOT186	45	10		135	0.57	10	20		
BYV120-45	DO-4	45	15		300	0.6	15	260	520	
BYV120-45M	DO-4	45	15		300	0.6	15	260	520	
PBYR1645	TO-220AC	45	16		135	0.57	16	32		
PBYR1645F	SOT186	45	16		135	0.57	16	32		
BYV139-45	TO-220AC	45	16		150	0.6	15	260	520	
BYV121-45	DO-4	45	30		600	0.6	34	500	1150	
BYV121-45M	DO-4	45	30		600	0.6	34	500	1150	
1N4001ID	SOD81	50	1		20	1.1	1	10		
1N4001G	SOD57	50	1		30	1.1	1	10		
1N4933	SOD84	50	1.5	200	30	1.2	3.14			
PRLL4001	SOD87	50	1.6		20	1.1	1	10		
BYD73A	SOD81	50	1.75	25	25	0.95	1	15		10
BYD77A	SOD87	50	2	25	25	0.95	1	15		10
BYV27-50	SOD57	50	2	25	50	1.07	3	15		20
BYD74A	SOD84	50	2.4	25	50	0.94	2	13		20
BYV28-50	SOD64	50	3.5	30	90	1.1	5	25		20
1N3879	DO-4	50	6	200	80	1.4	6	75		
BYW29-50 €	TO-220AC	50	8	25	80	0.8	8	240		

Rectifier diodes

Single rectifiers (cont.)

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYW29F-50	SOT186	50	8	25	80	0.8	8	240		
BYV79-50	TO-220AC	50	14	30	180	0.85	10	420		
BYW30-50 ∈	DO-4	50	14	30	200	0.8	15	420		
1N3899	DO-5	50	20	200	225	1.4	20	100		
BYW31-50 ∈	DO-4	50	28	40	320	0.8	30	550		
BYW31-50U ∈	DO-4	50	28	40	320	0.8	30	550		
1N3909	DO-5	50	30	200	300	1.4	30	125		
1N4002ID	SOD81	100	1		20	1.1	1	10		
1N4002G	SOD57	100	1		30	1.1	1	10		
1N4934	SOD84	100	1.5	200	30	1.2	3.14			
PRLL4002	SOD87	100	1.6		20	1.1	1	10		
BYD73B	SOD81	100	1.75	25	25	0.95	1	15		10
BYD77B	SOD87	100	2	25	25	0.95	1	15		10
BYV27-100	SOD57	100	2	25	50	1.07	3	15		20
BYD74B	SOD84	100	2.4	25	50	0.94	2	13		20
BYV28-100	SOD64	100	3.5	30	90	1.1	5	25		20
BYW29-100 ∈	TO-220AC	100	8	25	80	0.8	8	240		
BYW29E-100	TO-220AC	100	8	25	80	1.3	20	240		30
BYW29F-100	SOT186	100	8	25	80	0.8	8	240		
1N3890	DO-4	100	12	200	150	1.4	12	140		
BYV79E-100	TO-220AC	100	14	30	140	1.05	14	420		40
BYV79-100	TO-220AC	100	14	30	180	0.85	10	420		
BYW30-100 ∈	DO-4	100	14	30	200	0.8	15	420		
BYW31-100 ∈	DO-4	100	28	40	320	0.8	30	550		
BYW31-100U ∈	DO-4	100	28	40	320	0.8	30	550		
BYD73C	SOD81	150	1.75	25	25	0.95	1	15		10
BYD77C	SOD87	150	2	25	25	0.95	1	15		10
BYV27-150	SOD57	150	2	25	50	1.07	3	15		20
BYD74C	SOD84	150	2.4	25	50	0.94	2	13		20
BYV28-150	SOD64	150	3.5	30	90	1.1	5	25		20
BYW29-150 ∈	TO-220AC	150	8	25	80	0.8	8	240		
BYW29E-150	TO-220AC	150	8	25	80	1.3	20	240		30
BYW29F-150	SOT186	150	8	25	80	0.8	8	240		
BYV79E-150	TO-220AC	150	14	30	140	1.05	14	420		40
BYV79-150	TO-220AC	150	14	30	180	0.85	10	420		
BYW30-150 ∈	DO-4	150	14	30	200	0.8	15	420		
BYW31-150 ∈	DO-4	150	28	40	320	0.8	30	550		
BYW31-150U ∈	DO-4	150	28	40	320	0.8	30	550		
BYD31D	SOD91	200	0.5	250	10	1.35	0.5			
BYD11D	SOD91	200	0.58		10	1.06	0.5		14	
1N4003ID	SOD81	200	1		20	1.1	1	10		
1N4003G	SOD57	200	1		30	1.1	1	10		
BYV26A	SOD57	200	1	30	30	2.5	1	10		10
BYD33D	SOD81	200	1.3	250	20	1.3	1	7		10
BYD13D	SOD81	200	1.4		20	1.05	1	5.5	21	7
BYD17D	SOD87	200	1.5		20	1.05	1	5.5	21	7
1N4935	SOD84	200	1.5	200	30	1.2	3.14			
BYD37D	SOD87	200	1.5	250	20	1.3	1	13		10
BYV95A	SOD57	200	1.5	250	35	1.6	3	10		10
BYV36A	SOD57	200	1.6	100	30	1.35	1	10		10
BYD73D	SOD81	200	1.75	25	25	0.95	1	15		10

Single rectifiers (cont.)

typenumber		outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYD34D		SOD84	200	1.8	250	45	1.4	3	17		10
BYD14D		SOD84	200	2		50	1.15	3	20	50	40
BYD77D		SOD87	200	2	25	25	0.95	1	15		10
BYV27-200		SOD57	200	2	25	50	1.07	3	15		20
1N5059	€	SOD57	200	2	6000	50	1.15	2.5	12		
BYM26A		SOD64	200	2.3	30	45	2.65	2	8		10
BYD74D		SOD84	200	2.4	25	50	0.94	2	13		20
BYM36A		SOD64	200	3	100	65	1.6	3	13		10
BYW95A		SOD64	200	3	250	70	1.5	5	15		10
BYM56A		SOD64	200	3.5		80	1.25	5	20	90	20
BYV28-200		SOD64	200	3.5	30	90	1.1	5	25		20
BY229-200	€	TO-220AC	200	7	150	60	1.85	20	135		
BY229-200R		TO-220AC	200	7	150	60	1.85	20	135		
BY229F-200		SOT186	200	7	150	60	1.85	20	135		
BYW29-200	€	TO-220AC	200	8	25	80	0.8	8	240		
BYW29E-200		TO-220AC	200	8	25	80	1.3	20	240		30
BYW29F-200		SOT186	200	8	25	80	0.8	8	240		
BYV79E-200		TO-220AC	200	14	30	140	1.05	14	420		40
BYV79-200		TO-220AC	200	14	30	180	0.85	10	420		
BYW30-200	€	DO-4	200	14	30	200	0.8	15	420		
BYX30-200		DO-4	200	14	200	250	3.2	50	310		
BYX30-200R		DO-4	200	14	200	250	3.2	50	310		
BYX46-200		DO-4	200	22	200	300	2	50	400		
BYX46-200R		DO-4	200	22	200	300	2	50	400		
BYW31-200	€	DO-4	200	28	40	320	0.8	30	550		
BYW31-200U	€	DO-4	200	28	40	320	0.8	30	550		
BYD73E		SOD81	250	1.7	50	25	1.05	1	13		10
BYD77E		SOD87	250	1.85	50	25	1.05	1	13		10
BYD74E		SOD84	250	2.15	50	50	1.05	2	12		20
BYD73F		SOD81	300	1.7	50	25	1.05	1	13		10
BYD77F		SOD87	300	1.85	50	25	1.05	1	13		10
BYD74F		SOD84	300	2.15	50	50	1.05	2	12		20
BYX38-300	€	DO-4	300	6		50	1.7	20	50		
BYX38-300R	€	DO-4	300	6		50	1.7	20	50		
BY249-300		TO-220AC	300	6.5		60	1.6	20	60		
BY249-300R		TO-220AC	300	6.5		60	1.6	20	60		
BY249F-300		SOT186	300	6.5		60	1.6	20			
BYV29-300		TO-220AC	300	9	50	100	1.4	20	200		
BYV29F-300		SOT186	300	9	50	110	1.05	5	200		
BYX98-300	€	DO-4	300	10		75	1.7	20	75		
BYX98-300R	€	DO-4	300	10		75	1.7	20	75		
BYX42-300	€	DO-4	300	12		125	1.4	15	60		
BYX42-300R	€	DO-4	300	12		125	1.4	15	60		
BYT79-300		TO-220AC	300	14	50	150	1.4	50	320		
BYV30-300		DO-4	300	14	50	150	1.4	50	320		
BYX30-300		DO-4	300	14	200	250	3.2	50	310		
BYX30-300R		DO-4	300	14	200	250	3.2	50	310		
BYX99-300	€	DO-4	300	15		180	1.55	50	180		
BYX99-300R	€	DO-4	300	15		180	1.55	50	180		
1N3902		DO-5	300	20	200	225	1.4	20	100		
BYX46-300		DO-4	300	22	200	300	2	50	400		

Rectifier diodes

Single rectifiers (cont.)

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYX46-300R	DO-4	300	22	200	300	2	50	400		
BYV31-300	DO-4	300	28	50	300	1.4	100	550		
BYV31-300U	DO-4	300	28	50	300	1.4	100	550		
BYX96-300	DO-4	300	30		400	1.7	100	400		
BYX96-300R	DO-4	300	30		400	1.7	100	400		
BYX96-300RU	DO-4	300	30		400	1.7	100	400		
BYX96-300U	DO-4	300	30		400	1.7	100	400		
BYD31G	SOD91	400	0.5	250	10	1.35	0.5			
BYD11G	SOD91	400	0.58		10	1.06	0.5		14	
1N4004ID	SOD81	400	1		20	1.1	1	10		
1N4004G	SOD57	400	1		30	1.1	1	10		
BYV26B	SOD57	400	1	30	30	2.5	1	10		10
BYD33G	SOD81	400	1.3	250	20	1.3	1	7		10
BYD13G	SOD81	400	1.4		20	1.05	1	5.5	21	7
BYD17G	SOD87	400	1.5		20	1.05	1	5.5	21	7
1N4936	SOD84	400	1.5	200	30	1.2	3.14			
BYD37G	SOD87	400	1.5	250	20	1.3	1	13		10
BYV95B	SOD57	400	1.5	250	35	1.6	3	10		10
BYV36B	SOD57	400	1.6	100	30	1.35	1	10		10
BYD73G	SOD81	400	1.7	50	25	1.05	1	13		10
BYD34G	SOD84	400	1.8	250	45	1.4	3	17		10
BYD77G	SOD87	400	1.85	50	25	1.05	1	13		10
BYD14G	SOD84	400	2		50	1.15	3	20	50	40
1N5060 €	SOD57	400	2	6000	50	1.15	2.5	12		
BYD74G	SOD84	400	2.15	50	50	1.05	2	12		20
BYM26B	SOD64	400	2.3	30	45	2.65	2	8		10
BYM36B	SOD64	400	3	100	65	1.6	3	13		10
BYW95B	SOD64	400	3	250	70	1.5	5	15		10
BYM56B	SOD64	400	3.5		80	1.25	5	20	90	20
1N3883	DO-4	400	6	200	80	1.4	6	75		
BY229-400 €	TO-220AC	400	7	150	60	1.85	20	135		
BY229-400R	TO-220AC	400	7	150	60	1.85	20	135		
BY229F-400	SOT186	400	7	150	60	1.85	20	135		
BYV29-400	TO-220AC	400	9	50	100	1.4	20	200		
BYV29F-400	SOT186	400	9	50	110	1.05	5	200		
1N3893	DO-4	400	12	200	150	1.4	12	140		
BYT79-400	TO-220AC	400	14	50	150	1.4	50	320		
BYV30-400	DO-4	400	14	50	150	1.4	50	320		
BYX30-400	DO-4	400	14	200	250	3.2	50	310		
BYX30-400R	DO-4	400	14	200	250	3.2	50	310		
BYX46-400	DO-4	400	22	200	300	2	50	400		
BYX46-400R	DO-4	400	22	200	300	2	50	400		
BYV31-400	DO-4	400	28	50	300	1.4	100	550		
BYV31-400U	DO-4	400	28	50	300	1.4	100	550		
1N3913	DO-5	400	30	200	300	1.4	30	125		
BYV30-450	DO-4	450	14	50	150	1.4	50	320		
BYV31-450U	DO-4	450	28	50	300	1.4	100	550		
BYR29-500	TO-220AC	500	8	75	72	1.15	5	130		
BYV29-500	TO-220AC	500	9	50	100	1.4	20	200		
BYV29F-500	SOT186	500	9	50	110	1.05	5	200		
BYT79-500	TO-220AC	500	14	50	150	1.4	50	320		

Single rectifiers (cont.)

typenumber	outline	V_{RRM}	$I_{F(AV)}$	$t_{rr\text{-}max}$	I_{FSM}	V_F max	@ I_F	I_{FRM}	C_d typ	E_{RSM}
		V	A	ns	A	V	A	A	pF	mJ
BYV30-500	DO-4	500	14	50	150	1.4	50	320		
BYX30-500	DO-4	500	14	200	250	3.2	50	310		
BYX30-500R	DO-4	500	14	200	250	3.2	50	310		
BYX46-500	DO-4	500	22	200	300	2	50	400		
BYX46-500R	DO-4	500	22	200	300	2	50	400		
BYV31-500	DO-4	500	28	50	300	1.4	100	550		
BYV31-500U	DO-4	500	28	50	300	1.4	100	550		
BYD31J	SOD91	600	0.5	250	10	1.35	0.5			
BYD11J	SOD91	600	0.58		10	1.06	0.5		14	
1N4005ID	SOD81	600	1		20	1.1	1	10		
1N4005G	SOD57	600	1		30	1.1	1	10		
BYV26C	SOD57	600	1	30	30	2.5	1	10		10
BYD33J	SOD81	600	1.3	250	20	1.3	1	7		10
BYD13J	SOD81	600	1.4		20	1.05	1	5.5	21	7
BYD17J	SOD87	600	1.5		20	1.05	1	5.5	21	7
1N4937	SOD84	600	1.5	200	30	1.2	3.14			
BYD37J	SOD87	600	1.5	250	20	1.3	1	13		10
BYV95C	SOD57	600	1.5	250	35	1.6	3	10		10
BYV36C	SOD57	600	1.6	100	30	1.35	1	10		10
BYD34J	SOD84	600	1.8	250	45	1.4	3	17		10
BYD14J	SOD84	600	2		50	1.15	3	20	50	40
BYW54 €	SOD57	600	2		50	1	1	12	50	20
1N5061 €	SOD57	600	2	6000	50	1.15	2.5	12		
BYM26C	SOD64	600	2.3	30	45	2.65	2	8		10
BYM36C	SOD64	600	3	100	65	1.6	3	13		10
BYW95C	SOD64	600	3	250	70	1.5	5	15		10
BYM56C	SOD64	600	3.5		80	1.25	5	20	90	20
BYX38-600 €	DO-4	600	6		50	1.7	20	50		
BYX38-600R €	DO-4	600	6		50	1.7	20	50		
BY249-600	TO-220AC	600	6.5		60	1.6	20	60		
BY249-600R	TO-220AC	600	6.5		60	1.6	20	60		
BY249F-600	SOT186	600	6.5		60	1.6	20			
BY229-600 €	TO-220AC	600	7	150	60	1.85	20	135		
BY229-600R	TO-220AC	600	7	150	60	1.85	20	135		
BY229F-600	SOT186	600	7	150	60	1.85	20	135		
BYR29-600	TO-220AC	600	8	75	60	1.65	20	130		
BYR29F-600	SOT186	600	8	75	72	1.3	10	130		
BYX39-600	DO-4	600	9.5		125	1.7	20	100		
BYX39-600R	DO-4	600	9.5		125	1.7	20	100		
BYX98-600 €	DO-4	600	10		75	1.7	20	75		
BYX98-600R €	DO-4	600	10		75	1.7	20	75		
BYX42-600 €	DO-4	600	12		125	1.4	15	60		
BYX42-600R €	DO-4	600	12		125	1.4	15	60		
BYX30-600	DO-4	600	14	200	250	3.2	50	310		
BYX30-600R	DO-4	600	14	200	250	3.2	50	310		
BYX99-600 €	DO-4	600	15		180	1.55	50	180		
BYX99-600R €	DO-4	600	15		180	1.55	50	180		
BYX25-600 €	DO-4	600	20		360	1.8	50	440		
BYX25-600R €	DO-4	600	20		360	1.8	50	440		
BYX46-600	DO-4	600	22	200	300	2	50	400		

Rectifier diodes

Single rectifiers (cont.)

typenumber		outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYX46-600R		DO-4	600	22	200	300	2	50	400		
BYX96-600		DO-4	600	30		400	1.7	100	400		
BYX96-600R		DO-4	600	30		400	1.7	100	400		
BYX96-600RU		DO-4	600	30		400	1.7	100	400		
BYX96-600U		DO-4	600	30		400	1.7	100	400		
BYR29-700		TO-220AC	700	8	75	60	1.65	20	130		
BYR29F-700		SOT186	700	8	75	72	1.3	10	130		
BYD11K		SOD91	800	0.58		10	1.06	0.5		14	
1N4006ID		SOD81	800	1		20	1.1	1	10		
1N4006G		SOD57	800	1		30	1.1	1	10		
BYV26D		SOD57	800	1	75	30	2.5	1	10		10
BYD33K		SOD81	800	1.3	300	20	1.3	1	7		7
BYD13K		SOD81	800	1.4		20	1.05	1	5.5	21	7
BYD17K		SOD87	800	1.5		20	1.05	1	5.5	21	7
BYV36D		SOD57	800	1.5	150	30	1.45	1	9		10
BYD37K		SOD87	800	1.5	300	20	1.3	1	13		7
BYV96D		SOD57	800	1.5	300	35	1.6	3	10		10
BYD34K		SOD84	800	1.8	300	35	1.4	3	17		10
BYD14K		SOD84	800	2		50	1.15	3	20	50	40
BYW55	€	SOD57	800	2		50	1	1	12	50	20
1N5062	€	SOD57	800	2	6000	50	1.15	2.5	12		
BYM26D		SOD64	800	2.3	75	45	2.65	2	8		10
BYM36D		SOD64	800	2.9	150	65	1.78	3	11		10
BYW96D		SOD64	800	3	300	70	1.5	5	15		10
BYM56D		SOD64	800	3.5		80	1.25	5	20	90	20
BY229-800	€	TO-220AC	800	7	150	60	1.85	20	135		
BY229-800R		TO-220AC	800	7	150	60	1.85	20	135		
BY229F-800		SOT186	800	7	150	60	1.85	20	135		
BYR29-800		TO-220AC	800	8	75	60	1.65	20	130		
BYR29F-800		SOT186	800	8	75	72	1.3	10	130		
BY329-800		TO-220AC	800	8	150	80	1.85	20	80		
BY329-800R		TO-220AC	800	8	150	80	1.85	20	80		
BYX39-800		DO-4	800	9.5		125	1.7	20	100		
BYX39-800R		DO-4	800	9.5		125	1.7	20	100		
BYV24-800		DO-4	800	12	450	150	1.7	20	120		
BYV24-800R		DO-4	800	12	450	150	1.7	20	120		
BYX25-800	€	DO-4	800	20		360	1.8	50	440		
BYX25-800R	€	DO-4	800	20		360	1.8	50	440		
BYD11M		SOD91	1000	0.58		10	1.06	0.5		14	
1N4007ID		SOD81	1000	1		20	1.1	1	10		
1N4007G		SOD57	1000	1		30	1.1	1	10		
BYV26E		SOD57	1000	1	75	30	2.5	1	10		10
BYD33M		SOD81	1000	1.3	300	20	1.3	1	7		7
BYD13M		SOD81	1000	1.4		20	1.05	1	5.5	21	7
BYD17M		SOD87	1000	1.5		20	1.05	1	5.5	21	7
BYV36E		SOD57	1000	1.5	150	30	1.45	1	9		10
BYD37M		SOD87	1000	1.5	300	20	1.3	1	13		7
BYV96E		SOD57	1000	1.5	300	35	1.6	3	10		10
BYD34M		SOD84	1000	1.8	300	35	1.4	3	17		10
BYD14M		SOD84	1000	2		50	1.15	3	20	50	40
BYW56	€	SOD57	1000	2		50	1	1	12	50	20

Single rectifiers (cont.)

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYM26E	SOD64	1000	2.3	75	45	2.65	2	8		10
BYM36E	SOD64	1000	2.9	150	65	1.78	3	11		10
BYW96E	SOD64	1000	3	300	70	1.5	5	15		10
BYM56E	SOD64	1000	3.5		80	1.25	5	20	90	20
BY229F-1000	SOT186	1000	7	150	60	1.85	20	135		
BY329-1000	TO-220AC	1000	8	150	80	1.85	20	80		
BY329-1000R	TO-220AC	1000	8	150	80	1.85	20	80		
BYX39-1000	DO-4	1000	9.5		125	1.7	20	100		
BYX39-1000R	DO-4	1000	9.5		125	1.7	20	100		
BYV24-1000	DO-4	1000	12	450	150	1.7	20	120		
BYV24-1000R	DO-4	1000	12	450	150	1.7	20	120		
BYX25-1000 €	DO-4	1000	20		360	1.8	50	440		
BYX25-1000R €	DO-4	1000	20		360	1.8	50	440		
BY458	SOD57	1200	4		30	1.6	3	8		
BY438	SOD64	1200	5		50	1.5	5	10		
BYX38-1200 €	DO-4	1200	6		50	1.7	20	50		
BYX38-1200R €	DO-4	1200	6		50	1.7	20	50		
BY329-1200	TO-220AC	1200	8	150	80	1.85	20	80		
BY329-1200R	TO-220AC	1200	8	150	80	1.85	20	80		
BYX39-1200	DO-4	1200	9.5		125	1.7	20	100		
BYX39-1200R	DO-4	1200	9.5		125	1.7	20	100		
BYX98-1200 €	DO-4	1200	10		75	1.7	20	75		
BYX98-1200R €	DO-4	1200	10		75	1.7	20	75		
BYX42-1200 €	DO-4	1200	12		125	1.4	15	60		
BYX42-1200R €	DO-4	1200	12		125	1.4	15	60		
BYX99-1200 €	DO-4	1200	15		180	1.55	50	180		
BYX99-1200R €	DO-4	1200	15		180	1.55	50	180		
BYX25-1200 €	DO-4	1200	20		360	1.8	50	440		
BYX25-1200R €	DO-4	1200	20		360	1.8	50	440		
BYX96-1200	DO-4	1200	30		400	1.7	100	400		
BYX96-1200R	DO-4	1200	30		400	1.7	100	400		
BYX96-1200RU	DO-4	1200	30		400	1.7	100	400		
BYX96-1200U	DO-4	1200	30		400	1.7	100	400		
BY527	SOD57	1250	2		50	1	1	12		20
BY627	SOD84	1250	2		50	1.15	3	20	50	40
BY428	SOD64	1400			50	1.95	4	8		
BY328	SOD64	1400	6		60	1.45	5	10		
BYX39-1400	DO-4	1400	9.5		125	1.7	20	100		
BYX39-1400R	DO-4	1400	9.5		125	1.7	20	100		
BYX25-1400 €	DO-4	1400	20		360	1.8	50	440		
BYX25-1400R €	DO-4	1400	20		360	1.8	50	440		
BY448	SOD57	1500	4		30	1.6	3	8		
BY228	SOD64	1500	5		50	1.5	5	10		
BYX10G	SOD57	1600	1.2		25	1.5	2	5		
BYX96-1600	DO-4	1600	30		400	1.7	100	400		
BYX96-1600R	DO-4	1600	30		400	1.7	100	400		
BYX96-1600RU	DO-4	1600	30		400	1.7	100	400		
BYX96-1600U	DO-4	1600	30		400	1.7	100	400		

Rectifier diodes

Dual rectifiers

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
BYV133F-30	SOT186	30	20		150	0.6	7	150	300	
BYV222V-30	SOT227B	30	120		600	0.67	60	600	2100	
BYV223V-30	SOT227B	30	160		900	0.69	80	900	2500	
PBYR235CT	SOT223	35	2		6	0.7	2	30		
PBYR635CT	SOT82	35	10		80	0.6	5	90	200	
BYV118F-35	SOT186	35	10		100	0.6	5	90	200	
PBYR1535CT	TO-220AB	35	15		135	0.57	7.5	15		
PBYR1535CTF	SOT186	35	15		135	0.57	7.5	15		
PBYR2035CT	TO-220AB	35	20		135	0.57	10	20		
PBYR2035CTF	SOT186	35	20		135	0.57	10	20		
PBYR2535CTF	SOT186	35	20		135	0.51	20	30		
BYV133F-35	SOT186	35	20		150	0.6	7	150	300	
BYV133-35	TO-220AB	35	20		200	0.6	7	200	300	
BYV143F-35	SOT186	35	20		200	0.6	15	250	500	
PBYR2535CT	TO-220AB	35	30		135	0.73	30	30		
PBYR3035PT	SOT93	35	30		180	0.6	20	30		
BYV143-35	TO-220AB	35	30		200	0.6	15	250	500	
BYV222V-35	SOT227B	35	120		600	0.67	60	600	2100	
PBYR12035TV	SOT227B	35	120		600	0.67	60	652	2100	
BYV223V-35	SOT227B	35	160		900	0.69	80	900	2500	
PBYR16035TV	SOT227B	35	160		900	0.69	80	900	2500	
PBYR240CT	SOT223	40	2		6	0.7	2	30		
PBYR640CT	SOT82	40	10		80	0.6	5	90	200	
BYV118F-40	SOT186	40	10		100	0.6	5	90	200	
PBYR1540CT	TO-220AB	40	15		135	0.57	7.5	15		
PBYR1540CTF	SOT186	40	15		135	0.57	7.5	15		
PBYR2040CT	TO-220AB	40	20		135	0.57	10	20		
PBYR2040CTF	SOT186	40	20		135	0.57	10	20		
PBYR2540CTF	SOT186	40	20		135	0.51	20	30		
BYV133F-40	SOT186	40	20		150	0.6	7	150	300	
BYV133-40	TO-220AB	40	20		200	0.6	7	200	300	
BYV143F-40	SOT186	40	20		200	0.6	15	250	500	
PBYR2540CT	TO-220AB	40	30		135	0.73	30	30		
PBYR3040PT	SOT93	40	30		180	0.6	20	30		
BYV143-40	TO-220AB	40	30		200	0.6	15	250	500	
BYV222V-40	SOT227B	40	120		600	0.67	60	600	2100	
PBYR12040TV	SOT227B	40	120		600	0.67	60	652	2100	
BYV223V-40	SOT227B	40	160		900	0.69	80	900	2500	
PBYR16040TV	SOT227B	40	160		900	0.69	80	900	2500	
PBYR245CT	SOT223	45	2		6	0.7	2	30		
PBYR645CT	SOT82	45	10		80	0.6	5	90	200	
BYV118F-45	SOT186	45	10		100	0.6	5	90	200	
PBYR1545CT	TO-220AB	45	15		135	0.57	7.5	15		
PBYR1545CTF	SOT186	45	15		135	0.57	7.5	15		
PBYR2045CT	TO-220AB	45	20		135	0.57	10	20		
PBYR2045CTF	SOT186	45	20		135	0.57	10	20		
PBYR2545CTF	SOT186	45	20		135	0.51	20	30		
BYV133F-45	SOT186	45	20		150	0.6	7	150	300	
BYV133-45	TO-220AB	45	20		200	0.6	7	200	300	
BYV143F-45	SOT186	45	20		200	0.6	15	250	500	
PBYR2545CT	TO-220AB	45	30		135	0.73	30	30		

Dual rectifiers (cont.)

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ A	$t_{rr\text{-}max}$ ns	I_{FSM} A	V_F max V	@ I_F A	I_{FRM} A	C_d typ pF	E_{RSM} mJ
PBYR3045PT	SOT93	45	30		180	0.6	20	30		
BYV143-45	TO-220AB	45	30		200	0.6	15	250	500	
BYV222V-45	SOT227B	45	120		600	0.67	60	600	2100	
PBYR12045TV	SOT227B	45	120		600	0.67	60	652	2100	
BYV223V-45	SOT227B	45	160		900	0.69	80	900	2500	
PBYR16045TV	SOT227B	45	160		900	0.69	80	900	2500	
BYQ27-50	SOT82	50	10	20	50	1.25	10	80		
BYQ28-50	TO-220AB	50	10	20	50	1.25	10	80		
BYQ28F-50	SOT186	50	10	20	60	0.85	5	80		
BYV32F-50	SOT186	50	12	25	150	1.15	20	155		
BYV32-50 €	TO-220AB	50	20	25	150	1.15	20	230		
BYV72F-50	SOT199	50	20	28	150	0.85	10	320		
BYV72-50	SOT93	50	30	28	150	0.85	10	320		
BYV42-50	TO-220AB	50	30	28	200	0.85	10	320		
BYV54V-50	SOT227B	50	100	60	1000	0.8	50	1000		
BYV40-100	SOT223	100	1.5	25	6	1	1.5	35		
BYQ27-100	SOT82	100	10	20	50	1.25	10	80		
BYQ28-100	TO-220AB	100	10	20	50	1.25	10	80		
BYQ28F-100	SOT186	100	10	20	60	0.85	5	80		
BYQ28E-100	TO-220AB	100	10	25	50	1.1	5	80		20
BYV32F-100	SOT186	100	12	25	150	1.15	20	155		
BYV32E-100	TO-220AB	100	20	25	125	1.15	20	230		30
BYV32-100 €	TO-220AB	100	20	25	150	1.15	20	230		
BYV72F-100	SOT199	100	20	28	150	0.85	10	320		
BYV42E-100	TO-220AB	100	30	28	140	1.2	30	320		40
BYV72E-100	SOT93	100	30	28	140	1.05	15	320		40
BYV72-100	SOT93	100	30	28	150	0.85	10	320		
BYV42-100	TO-220AB	100	30	28	200	0.85	10	320		
BYV54V-100	SOT227B	100	100	60	1000	0.8	50	1000		
BYV40-150	SOT223	150	1.5	25	6	1	1.5	35		
BYQ27-150	SOT82	150	10	20	50	1.25	10	80		
BYQ28-150	TO-220AB	150	10	20	50	1.25	10	80		
BYQ28F-150	SOT186	150	10	20	60	0.85	5	80		
BYQ28E-150	TO-220AB	150	10	25	50	1.1	5	80		20
BYV32F-150	SOT186	150	12	25	150	1.15	20	155		
BYV32E-150	TO-220AB	150	20	25	125	1.15	20	230		30
BYV32-150 €	TO-220AB	150	20	25	150	1.15	20	230		
BYV72F-150	SOT199	150	20	28	150	0.85	10	320		
BYV42E-150	TO-220AB	150	30	28	140	1.2	30	320		40
BYV72E-150	SOT93	150	30	28	140	1.05	15	320		40
BYV72-150	SOT93	150	30	28	150	0.85	10	320		
BYV42-150	TO-220AB	150	30	28	200	0.85	10	320		
BYV54V-150	SOT227B	150	100	60	1000	0.8	50	1000		
BYV40-200	SOT223	200	1.5	25	6	1	1.5	35		
BYQ27-200	SOT82	200	10	20	50	1.25	10	80		
BYQ28-200	TO-220AB	200	10	20	50	1.25	10	80		
BYQ28F-200	SOT186	200	10	20	60	0.85	5	80		
BYQ28E-200	TO-220AB	200	10	25	50	1.1	5	80		20
BYV32F-200	SOT186	200	12	25	150	1.15	20	155		
BYV32E-200	TO-220AB	200	20	25	125	1.15	20	230		30
BYV32-200 €	TO-220AB	200	20	25	150	1.15	20	230		

Rectifier diodes

Dual rectifiers (cont.)

typenumber	outline	V_{RRM}	$I_{F(AV)}$	$t_{rr\text{-}max}$	I_{FSM}	V_F max	@ I_F	I_{FRM}	C_d typ	E_{RSM}
		V	A	ns	A	V	A	A	pF	mJ
BYV72F-200	SOT199	200	20	28	150	0.85	10	320		
BYV42E-200	TO-220AB	200	30	28	140	1.2	30	320		40
BYV72E-200	SOT93	200	30	28	140	1.05	15	320		40
BYV72-200	SOT93	200	30	28	150	0.85	10	320		
BYV42-200	TO-220AB	200	30	28	200	0.85	10	320		
BYT230PIV-200	SOT227B	200	60	50	500	1.5	30	800		
BYV54V-200	SOT227B	200	100	60	1000	0.8	50	1000		
BYT28-300	TO-220AB	300	10	50	50	1.4	15	80		
BYV34-300	TO-220AB	300	20	50	120	0.93	10	240		
BYV74F-300	SOT199	300	20	50	130	1.05	15	320		
BYV74-300	SOT93	300	30	50	130	1.05	15	320		
BYV44-300	TO-220AB	300	30	50	150	1.05	15	320		
BYT230PIV-300	SOT227B	300	60	50	500	1.5	30	800		
BYT28-400	TO-220AB	400	10	50	50	1.4	15	80		
BYV34-400	TO-220AB	400	20	50	120	0.93	10	240		
BYV74F-400	SOT199	400	20	50	130	1.05	15	320		
BYV74-400	SOT93	400	30	50	130	1.05	15	320		
BYV44-400	TO-220AB	400	30	50	150	1.05	15	320		
BYT230PIV-400	SOT227B	400	60	50	500	1.5	30	800		
BYV44-450	TO-220AB	450	30	50	150	1.05	15	320		
BYT28-500	TO-220AB	500	10	50	50	1.4	15	80		
BYR28-500	TO-220AB	500	10	80	50	2	10	90		
BYV34-500	TO-220AB	500	20	50	120	0.93	10	240		
BYV74F-500	SOT199	500	20	50	130	1.05	15	320		
BYV74-500	SOT93	500	30	50	130	1.05	15	320		
BYV44-500	TO-220AB	500	30	50	150	1.05	15	320		
BYR28-600	TO-220AB	600	10	80	50	2	10	90		
BYT230PIV-600	SOT227B	600	60	100	200	1.9	30	375		
BYR28-700	TO-220AB	700	10	80	50	2	10	90		
BYT230PIV-700	SOT227B	700	60	100	200	1.9	30	375		
BYR28-800	TO-220AB	800	10	80	50	2	10	90		
BYT230PIV-800	SOT227B	800	60	100	200	1.9	30	375		
BYT230PIV-1000	SOT227B	1000	60	145	200	1.9	30	375		

EHT rectifiers

typenumber	outline	V_{RRM} V	$I_{F(AV)}$ mA	t_{rr} ns	V_F max V	@ I_F A	I_{FRM} A
BY584	SOD61	1800	85	200	8.5	0.1	0.8
BYD43-20	SOD81	2000	640	300	2.4	1	
BY614	SOD61	2200	50	300	6	0.05	0.5
BY505	SOD61	2200	85	200	8.5	0.1	0.8
BYX120G	SOD88A	3000	100	5000	4.4	1	5
BY715	SOD61	5000	20	100	28	0.1	0.5
BY705	SOD61	5000	20	200	21	0.1	0.5
BY716	SOD61	6000	20	100	28	0.1	0.5
BY706	SOD61	6000	20	200	21	0.1	0.5
BYX90G	SOD83	7500	550	350	14.5	2	5
BY617	SOD61	9000	4	100	37.5	0.1	0.5
BYX110GP	SOD101	9000	350		8.5	0.35	4
BY717	SOD61	10000	4	100	69	0.1	0.1
BY707	SOD61	10000	4	200	52	0.1	0.5
BY718	SOD61	12000	4	100	69	0.1	0.5
BY609	SOD61	12000	4	200	50	0.1	0.5
BY610	SOD61	12000	4	200	50	0.1	0.5
BY708	SOD61	12000	4	200	52	0.1	0.5
BY719	SOD61	14000	4	100	69	0.1	0.5
BY709	SOD61	14000	4	200	52	0.1	0.5
BY619	SOD61	15000	4	100	75	0.1	0.5
BY720	SOD61	17000	3	100	92	0.1	0.4
BY710	SOD61	17000	3	200	70	0.1	0.5
BY620	SOD61	17000	4	100	75	0.1	0.5
BY721	SOD61	19000	3	100	92	0.1	0.4
BY711	SOD61	19000	3	200	70	0.1	0.5
BY722	SOD61	22000	3	100	88	0.05	0.3
BY712	SOD61	22000	3	200	76	0.05	0.5
BY723	SOD61	24000	3	100	88	0.05	0.3
BY713	SOD61	24000	3	200	76	0.05	0.5
BY724	SOD61	30000	3	100	88	0.05	0.3
BY714	SOD61	30000	3	200	76	0.05	0.5

Rectifier diodes

Breakover diodes

I_H = 150 mA
I_{TSM2} = 40 A

typenumber	outline	$V_{(BO)}$ nom V	$V_{(BR)}$ V	$V_{(BO)}$ max V	V_D V	I_{TSM1} A	I_{TSM} A	@ dt ms	$(I^2)*t$ J	P_{tot} W	P_{TM} W
BR216	TO-220AB	65	58	78	50	150	40	10	8	35	110
BR210-100	TO-220AC	100	88	112	75	150	30	10	4.5	40	400
BR211-100	SOD84	100	88	112	75		15	10	1.1	1.2	50
BR213-100	TO-220AB	100	88	112	75	150	30	10	4.5	40	400
BR220-100	TO-220AB	100	88	112	75	150	30	10	4.5	40	400
BR210-120	TO-220AC	120	105	135	90	150	30	10	4.5	40	400
BR211-120	SOD84	120	105	135	90		15	10	1.1	1.2	50
BR213-120	TO-220AB	120	105	135	90	150	30	10	4.5	40	400
BR220-120	TO-220AB	120	105	135	90	150	30	10	4.5	40	400
BR210-140	TO-220AC	140	123	157	105	150	30	10	4.5	40	400
BR211-140	SOD84	140	123	157	105		15	10	1.1	1.2	50
BR213-140	TO-220AB	140	123	157	105	150	30	10	4.5	40	400
BR220-140	TO-220AB	140	123	157	105	150	30	10	4.5	40	400
BR210-160	TO-220AC	160	140	180	120	150	30	10	4.5	40	400
BR211-160	SOD84	160	140	180	120		15	10	1.1	1.2	50
BR213-160	TO-220AB	160	140	180	120	150	30	10	4.5	40	400
BR220-160	TO-220AB	160	140	180	120	150	30	10	4.5	40	400
BR211-180	SOD84	180	158	202	135		15	10	1.1	1.2	50
BR211-200	SOD84	200	176	224	150		15	10	1.1	1.2	50
BR211-220	SOD84	220	193	247	165		15	10	1.1	1.2	50
BR210-240	TO-220AC	240	211	269	180	150	30	10	4.5	40	400
BR211-240	SOD84	240	211	269	180		15	10	1.1	1.2	50
BR213-240	TO-220AB	240	211	269	180	150	30	10	4.5	40	400
BR220-240	TO-220AB	240	211	269	180	150	30	10	4.5	40	400
BR210-260	TO-220AC	260	228	292	195	150	30	10	4.5	40	400
BR211-260	SOD84	260	228	292	195		15	10	1.1	1.2	50
BR213-260	TO-220AB	260	228	292	195	150	30	10	4.5	40	400
BR220-260	TO-220AB	260	228	292	195	150	30	10	4.5	40	400
BR210-280	TO-220AC	280	246	314	210	150	30	10	4.5	40	400
BR211-280	SOD84	280	246	314	210		15	10	1.1	1.2	50
BR213-280	TO-220AB	280	246	314	210	150	30	10	4.5	40	400
BR220-280	TO-220AB	280	246	314	210	150	30	10	4.5	40	400

Voltage reference

Stabiliser diodes

I_Z max = 50 mA
P_{max} = 0.4 W

typenumber	outline	V_{ref} nom V	@ I_Z mA	S_Z %/K	@ I_Z mA	r_{diff} max Ohm
BZV13	DO-34	6.2	2	0.001	2	50
1N827	DO-34	6.2	7.5	0.001	7.5	15
1N827A	DO-34	6.2	7.5	0.001	7.5	10
1N825	DO-34	6.2	7.5	0.002	7.5	15
1N825A	DO-34	6.2	7.5	0.002	7.5	10
BZV11	DO-34	6.2	2	0.005	2	50
BZV81	SOD80	6.2	7.5	0.005	7.5	15
1N823	DO-34	6.2	7.5	0.005	7.5	15
1N823A	DO-34	6.2	7.5	0.005	7.5	10
BZV10	DO-34	6.2	2	0.01	2	50
BZV80	SOD80	6.2	7.5	0.01	7.5	15
1N821	DO-34	6.2	7.5	0.01	7.5	15
1N821A	DO-34	6.2	7.5	0.01	7.5	10
BZV14	DO-34	6.2	2	5	2	50
1N829	DO-34	6.2	7.5	5	7.5	15
1N829A	DO-34	6.2	7.5	5	7.5	10
BZV12	DO-34	6.5	2	0.002	2	50

Stabiliser diodes

Voltage regulator

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZX84-C2V4	SOT23	2.4	5				100			0	5
BZX55-C2V4 €	DO-35	2.4	5		30		85				
BZV49-C2V4	SOT89	2.4	5		40		100			0	5
BZV90-C2V4	SOT223	2.4	5		40		100			0	
BZV55-C2V4	SOD80	2.4	5	0.5	30	50	100			0	5
BZV60-C2V4	SOD68	2.4	5	0.5	30	50	100			0	5
BZX79-C2V4 €	DO-35	2.4	5	0.5	30	50	70			0	5
BZX84-C2V7	SOT23	2.7	5				100			0	5
BZX55-C2V7 €	DO-35	2.7	5		30		85				
BZV49-C2V7	SOT89	2.7	5		40		100			0	5
BZV90-C2V7	SOT223	2.7	5		40		100			0	
BZV55-C2V7	SOD80	2.7	5	0.5	30	50	100			0	5
BZV60-C2V7	SOD68	2.7	5	0.5	30	50	100			0	5
BZX79-C2V7 €	DO-35	2.7	5	0.5	30	50	75			0	5
BZX84-C3V0	SOT23	3	5				95			0	5
BZX55-C3V0 €	DO-35	3	5		30		85				
BZV49-C3V0	SOT89	3	5		40		95			0	5
BZV90-C3V0	SOT223	3	5		40		95			0	
BZV55-C3V0	SOD80	3	5	0.5	30	50	95			0	5
BZV60-C3V0	SOD68	3	5	0.5	30	50	95			0	5
BZX79-C3V0 €	DO-35	3	5	0.5	30	50	80			0	5
PMLL5225B	SOD80	3	20	0.5	10	75	1600	-0.0750	7.5		
1N5225B	DO-35	3	20	0.5	10	75	1600	-0.0750	7.5		
BZX84-C3V3	SOT23	3.3	5				95			0	5
BZX55-C3V3 €	DO-35	3.3	5		30		85				
BZV49-C3V3	SOT89	3.3	5		40		95			0	5
BZV90-C3V3	SOT223	3.3	5		40		95			0	
BZV55-C3V3	SOD80	3.3	5	0.5	30	50	95			0	5
BZV60-C3V3	SOD68	3.3	5	0.5	30	50	95			0	5
BZX79-C3V3 €	DO-35	3.3	5	0.5	30	50	85			0	5
PMBZ5226B	SOT23	3.3	20				1600	-0.0064	7.5		
PMLL5226B	SOD80	3.3	20	0.5	10	75	1600	-0.0700	7.5		
1N5226B	DO-35	3.3	20	0.5	10	75	1600	-0.0700	7.5		
1N4728A	DO-41	3.3	76								
BZX84-C3V6	SOT23	3.6	5				90			0	5
BZX55-C3V6 €	DO-35	3.6	5		30		85				
BZV49-C3V6	SOT89	3.6	5		40		90			0	5
BZV90-C3V6	SOT223	3.6	5		40		90			0	
BZV55-C3V6	SOD80	3.6	5	0.5	30	50	90			0	5
BZV60-C3V6	SOD68	3.6	5	0.5	30	50	90			0	5
BZX79-C3V6 €	DO-35	3.6	5	0.5	30	50	85			0	5
PMBZ5227B	SOT23	3.6	20				1700	-0.0065	7.5		
PMLL5227B	SOD80	3.6	20	0.5	10	75	1700	-0.0650	7.5		
1N5227B	DO-35	3.6	20	0.5	10	75	1700	-0.0650	7.5		
BZV85-C3V6 €	DO-41	3.6	60	1.3	60	55	15			-1	60
1N4729A	DO-41	3.6	69								
BZD27-C3V6	SOD87	3.6	100	1.7	300	105	8	-0.0400	100		
BZD23-C3V6	SOD81	3.6	100	2	300	25	8	-0.0400	100		
BZX84-C3V9	SOT23	3.9	5				90			0	5
BZX55-C3V9 €	DO-35	3.9	5		30		85				
BZV49-C3V9	SOT89	3.9	5		40		90			0	5

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZV90-C3V9	SOT223	3.9	5		40		90			0	
BZV55-C3V9	SOD80	3.9	5	0.5	30	50	90			0	5
BZV60-C3V9	SOD68	3.9	5	0.5	30	50	90			0	5
BZX79-C3V9 ∈	DO-35	3.9	5	0.5	30	50	85			5	5
PMBZ5228B	SOT23	3.9	20				1900	-0.0063	7.5		
PMLL5228B	SOD80	3.9	20	0.5	10	75	1900	-0.0600	7.5		
1N5228B	DO-35	3.9	20	0.5	10	75	1900	-0.0600	7.5		
BZV85-C3V9 ∈	DO-41	3.9	60	1.3	60	55	15			-1	60
1N4730A	DO-41	3.9	64								
BZD27-C3V9	SOD87	3.9	100	1.7	300	105	8	-0.0400	100		
BZD23-C3V9	SOD81	3.9	100	2	300	25	8	-0.0400	100		
BZX84-C4V3	SOT23	4.3	5				90			0	5
BZX55-C4V3 ∈	DO-35	4.3	5		30		75				
BZV49-C4V3	SOT89	4.3	5		40		90			0	5
BZV90-C4V3	SOT223	4.3	5		40		90			0	
BZV55-C4V3	SOD80	4.3	5	0.5	30	50	90			0	5
BZV60-C4V3	SOD68	4.3	5	0.5	30	50	90			0	5
BZX79-C4V3 ∈	DO-35	4.3	5	0.5	30	50	80			0	5
PMBZ5229B	SOT23	4.3	20				2000	-0.0058	7.5		
PMLL5229B	SOD80	4.3	20	0.5	10	75	2000	-0.0550	7.5		
1N5229B	DO-35	4.3	20	0.5	10	75	2000	0.055	7.5		
BZV85-C4V3 ∈	DO-41	4.3	50	1.3	60	55	13			0	50
1N4731A	DO-41	4.3	58								
BZD27-C4V3	SOD87	4.3	100	1.7	300	105	7	-0.0200	100		
BZD23-C4V3	SOD81	4.3	100	2	300	25	7	-0.0200	100		
BZX84-C4V7	SOT23	4.7	5				80			0.2	5
BZX55-C4V7 ∈	DO-35	4.7	5		30		60				
BZV49-C4V7	SOT89	4.7	5		40		80			0.2	5
BZV90-C4V7	SOT223	4.7	5		40		80			0.2	
BZV55-C4V7	SOD80	4.7	5	0.5	30	50	80			0.2	5
BZV60-C4V7	SOD68	4.7	5	0.5	30	50	80			0.2	5
BZX79-C4V7 ∈	DO-35	4.7	5	0.5	30	50	50			0.2	5
PMBZ5230B	SOT23	4.7	20				2000	-0.0047	7.5		
PMLL5230B	SOD80	4.7	20	0.5	10	75	1900	0.03	7.5		
1N5230B	DO-35	4.7	20	0.5	10	75	1900	0.03	7.5		
BZV85-C4V7 ∈	DO-41	4.7	45	1.3	60	55	13			0.7	45
1N4732A	DO-41	4.7	53								
BZD27-C4V7	SOD87	4.7	100	1.7	300	105	7	0	100		
BZD23-C4V7	SOD81	4.7	100	2	300	25	7	0	100		
PLVA650A	SOT23	5			30					0.2	0.25
PLVA450A	DO-35	5	0.25	0.4	30	55				0.2	0.25
BZX84-C5V1 ∈	SOT23	5.1	5				60			1.2	5
BZX55-C5V1 ∈	DO-35	5.1	5		30		35				
BZV49-C5V1	SOT89	5.1	5		40		60			1.2	5
BZV90-C5V1	SOT223	5.1	5		40		60			1.2	
BZV55-C5V1	SOD80	5.1	5	0.5	30	50	60			1.2	5
BZV60-C5V1	SOD68	5.1	5	0.5	30	50	60			1.2	5
BZX79-C5V1 ∈	DO-35	5.1	5	0.5	30	50	40			1.2	5
PMBZ5231B	SOT23	5.1	20				2000	-0.0013	7.5		
PMLL5231B	SOD80	5.1	20	0.5	10	75	1600	0.03	7.5		
1N5231B	DO-35	5.1	20	0.5	10	75	1600	0.03	7.5		

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZV85-C5V1 €	DO-41	5.1	45	1.3	60	55	10			2.2	45
1N4733A	DO-41	5.1	49								
BZD27-C5V1	SOD87	5.1	100	1.7	300	105	6	-0.0200	100		
BZD23-C5V1	SOD81	5.1	100	2	300	25	6	-0.0200	100		
PLVA653A	SOT23	5.3			30					1.6	0.25
PLVA453A	DO-35	5.3	0.25	0.4	30	55				1.6	0.25
PLVA656A	SOT23	5.6			30					1.9	0.25
PLVA456A	DO-35	5.6	0.25	0.4	30	55				1.9	0.25
BZX84-C5V6	SOT23	5.6	5				40			2.5	5
BZX55-C5V6 €	DO-35	5.6	5		30		25				
BZV49-C5V6	SOT89	5.6	5		40		40			2.5	5
BZV90-C5V6	SOT223	5.6	5		40		40			2.5	
BZV55-C5V6	SOD80	5.6	5	0.5	30	50	40			2.5	5
BZV60-C5V6	SOD68	5.6	5	0.5	30	50	40			2.5	5
BZX79-C5V6 €	DO-35	5.6	5	0.5	30	50	15			2.5	5
PMBZ5232B	SOT23	5.6	20				1600	0.023	7.5		
PMLL5232B	SOD80	5.6	20	0.5	10	75	1600	0.038	7.5		
1N5232B	DO-35	5.6	20	0.5	10	75	1600	0.038	7.5		
1N4734A	DO-41	5.6	45								
BZV85-C5V6 €	DO-41	5.6	45	1.3	60	55	7			2.7	45
BZD27-C5V6	SOD87	5.6	100	1.7	300	105	4	0.04	100		
BZD23-C5V6	SOD81	5.6	100	2	300	25	4	0.04	100		
PLVA659A	SOT23	5.9			30					2.4	0.25
PLVA459A	DO-35	5.9	0.25	0.4	30	55				2.4	0.25
PMBZ5233B	SOT23	6	20				1600	0.023	7.5		
PMLL5233B	SOD80	6	20	0.5	10	75	1600	0.038	7.5		
1N5233B	DO-35	6	20	0.5	10	75	1600	0.038	7.5		
PLVA662A	SOT23	6.2			30					2.65	0.25
PLVA462A	DO-35	6.2	0.25	0.4	30	55				2.65	0.25
BZX84-C6V2	SOT23	6.2	5				10			3.7	5
BZX55-C6V2 €	DO-35	6.2	5		30		10				
BZV49-C6V2	SOT89	6.2	5		40		10			3.7	5
BZV90-C6V2	SOT223	6.2	5		40		10			3.7	
BZV55-C6V2	SOD80	6.2	5	0.5	30	50	10			3.7	5
BZV60-C6V2	SOD68	6.2	5	0.5	30	50	10			3.7	5
BZX79-C6V2 €	DO-35	6.2	5	0.5	30	50	6			3.7	5
PMBZ5234B	SOT23	6.2	20				1000	0.039	7.5		
PMLL5234B	SOD80	6.2	20	0.5	10	75	1000	0.045	7.5		
1N5234B	DO-35	6.2	20	0.5	10	75	1000	0.045	7.5		
BZV85-C6V2 €	DO-41	6.2	35	1.3	60	55	4			3.6	35
1N4735A	DO-41	6.2	41								
BZD27-C6V2	SOD87	6.2	100	1.7	300	105	3	0.06	100		
BZD23-C6V2	SOD81	6.2	100	2	300	25	3	0.06	100		
PLVA665A	SOT23	6.5			30					2.9	0.25
PLVA465A	DO-35	6.5	0.25	0.4	30	55				2.9	0.25
BZV37	SOD68	6.5	5		40		20	0.1	5		
PLVA668A	SOT23	6.8			30					3.4	0.25
PLVA468A	DO-35	6.8	0.25	0.4	30	55				3.4	0.25
BZX84-C6V8	SOT23	6.8	5				15			4.5	5
BZX55-C6V8 €	DO-35	6.8	5		30		8				
BZV49-C6V8	SOT89	6.8	5		40		15			4.5	5

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZV90-C6V8	SOT223	6.8	5		40		15			4.5	
BZV55-C6V8	SOD80	6.8	5	0.5	30	50	15			4.5	5
BZV60-C6V8	SOD68	6.8	5	0.5	30	50	15			4.5	5
BZX79-C6V8 ∈	DO-35	6.8	5	0.5	30	50	6			4.5	5
PMBZ5235B	SOT23	6.8	20				750	0.04	7.5		
PMLL5235B	SOD80	6.8	20	0.5	10	75	750	0.05	7.5		
1N5235B	DO-35	6.8	20	0.5	10	75	750	0.05	7.5		
BZV85-C6V8 ∈	DO-41	6.8	35	1.3	60	55	3.5			4.3	35
1N4736A	DO-41	6.8	37								
BZD27-C6V8	SOD87	6.8	100	1.7	300	105	3	0.07	100		
BZD23-C6V8	SOD81	6.8	100	2	300	25	3	0.07	100		
BZX84-C7V5	SOT23	7.5	5				15			5.3	5
BZX55-C7V5 ∈	DO-35	7.5	5		30		7				
BZV49-C7V5	SOT89	7.5	5		40		15			5.3	5
BZV90-C7V5	SOT223	7.5	5		40		15			5.3	
BZV55-C7V5	SOD80	7.5	5	0.5	30	50	15			5.3	5
BZV60-C7V5	SOD68	7.5	5	0.5	30	50	15			5.3	5
BZX79-C7V5 ∈	DO-35	7.5	5	0.5	30	50	6			5.3	5
PMBZ5236B	SOT23	7.5	20				500	0.047	7.5		
PMLL5236B	SOD80	7.5	20	0.5	10	75	500	0.058	7.5		
1N5236B	DO-35	7.5	20	0.5	10	75	500	0.058	7.5		
1N4737A	DO-41	7.5	34								
BZV85-C7V5 ∈	DO-41	7.5	35	1.3	60	55	3			5.5	35
BZD27-C7V5	SOD87	7.5	100	2.3	300	105	2	0.07	100		
BZD23-C7V5	SOD81	7.5	100	2.5	300	25	2	0.07	100		
BZT03-C7V5 ∈	SOD57	7.5	100	3.25	600	25	2	0.07	100		
BZW03-C7V5	SOD64	7.5	175	6	1000	25	1.5	0.07	175		
BZY93-C7V5	DO-4	7.5	2000		700		0.3	3	2000		
BZY93-C7V5R	DO-4	7.5	2000		700		0.3	3	2000		
BZY91-C7V5	DO-5	7.5	5000	100	9500		0.2				
BZY91-C7V5R	DO-5	7.5	5000	100	9500		0.2				
BZX84-C8V2	SOT23	8.2	5				15			6.2	5
BZX55-C8V2 ∈	DO-35	8.2	5		30		7				
BZV49-C8V2	SOT89	8.2	5		40		15			6.2	5
BZV90-C8V2	SOT223	8.2	5		40		15			6.2	
BZV55-C8V2	SOD80	8.2	5	0.5	30	50	15			6.2	5
BZV60-C8V2	SOD68	8.2	5	0.5	30	50	15			6.2	5
BZX79-C8V2 ∈	DO-35	8.2	5	0.5	30	50	6			6.2	5
PMBZ5237B	SOT23	8.2	20				500	0.052	7.5		
PMLL5237B	SOD80	8.2	20	0.5	10	75	500	0.062	7.5		
1N5237B	DO-35	8.2	20	0.5	10	75	500	0.062	7.5		
BZV85-C8V2 ∈	DO-41	8.2	25	1.3	60	55	5			6.1	25
1N4738A	DO-41	8.2	31								
BZD27-C8V2	SOD87	8.2	100	2.3	300	105	2	0.08	100		
BZD23-C8V2	SOD81	8.2	100	2.5	300	25	2	0.08	100		
BZT03-C8V2 ∈	SOD57	8.2	100	3.25	600	25	2	0.08	100		
BZW03-C8V2	SOD64	8.2	150	6	1000	25	1.5	0.08	150		
BZY93-C8V2	DO-4	8.2	2000		700		0.3	4	2000		
BZY93-C8V2R	DO-4	8.2	2000		700		0.3	4	2000		
BZY91-C8V2	DO-5	8.2	5000	100	9500		0.3				
BZY91-C8V2R	DO-5	8.2	5000	100	9500		0.3				

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
PMBZ5238B	SOT23	8.7	20				600	0.053	7.5		
PMLL5238B	SOD80	8.7	20	0.5	10	75	600	0.065	7.5		
1N5238B	DO-35	8.7	20	0.5	10	75	600	0.065	7.5		
BZX84-C9V1	SOT23	9.1	5				15			7	5
BZX55-C9V1 €	DO-35	9.1	5		30		10				
BZV49-C9V1	SOT89	9.1	5		40		15			7	5
BZV90-C9V1	SOT223	9.1	5		40		15			7	
BZV55-C9V1	SOD80	9.1	5	0.5	30	50	15			7	5
BZV60-C9V1	SOD68	9.1	5	0.5	30	50	15			7	5
BZX79-C9V1 €	DO-35	9.1	5	0.5	30	50	6			7	5
PMBZ5239B	SOT23	9.1	20				600	0.055	7.5		
PMLL5239B	SOD80	9.1	20	0.5	10	75	600	0.068	7.5		
1N5239B	DO-35	9.1	20	0.5	10	75	600	0.068	7.5		
BZV85-C9V1 €	DO-41	9.1	25	1.3	60	55	5			7.2	25
1N4739A	DO-41	9.1	28								
BZD27-C9V1	SOD87	9.1	50	2.3	300	105	4	0.08	50		
BZD23-C9V1	SOD81	9.1	50	2.5	300	25	4	0.08	50		
BZT03-C9V1 €	SOD57	9.1	50	3.25	600	25	4	0.08	50		
BZW03-C9V1 €	SOD64	9.1	150	6	1000	25	2	0.08	150		
BZY93-C9V1	DO-4	9.1	1000		700		0.5	5	1000		
BZY93-C9V1R	DO-4	9.1	1000		700		0.5	5	1000		
BZY91-C9V1	DO-5	9.1	2000	100	9500		0.4				
BZY91-C9V1R	DO-5	9.1	2000	100	9500		0.4				
BZX84-C10	SOT23	10	5				20			8	5
BZX55-C10 €	DO-35	10	5		30		15				
BZX79-C10 €	DO-35	10	5		30		8			8	5
BZV49-C10	SOT89	10	5		40		20			8	5
BZV90-C10	SOT223	10	5		40		20			8	
BZV55-C10	SOD80	10	5	0.5	30	50	20			8	5
BZV60-C10	SOD68	10	5	0.5	30	50	20			8	5
PMBZ5240B	SOT23	10	20				600	0.055	7.5		
PMLL5240B	SOD80	10	20	0.5	10	75	600	0.075	7.5		
1N5240B	DO-35	10	20	0.5	10	75	600	0.075	7.5		
1N4740A	DO-41	10	25								
BZV85-C10 €	DO-41	10	25	1.3	60	55	8			8.5	25
BZD27-C10	SOD87	10	50	2.3	300	105	4	0.09	50		
BZD23-C10	SOD81	10	50	2.5	300	25	4	0.09	50		
BZT03-C10 €	SOD57	10	50	3.25	600	25	4	0.09	50		
BZW03-C10 €	SOD64	10	125	6	1000	25	2	0.09	125		
BZY93-C10	DO-4	10	1000		700		0.5	7	1000		
BZY93-C10R	DO-4	10	1000		700		0.5	7	1000		
BZY91-C10	DO-5	10	2000	100	9500		0.4				
BZY91-C10R	DO-5	10	2000	100	9500		0.4				
BZX84-C11	SOT23	11	5				20			9	5
BZX55-C11 €	DO-35	11	5		30		20				
BZX79-C11 €	DO-35	11	5		30		10			9	5
BZV49-C11	SOT89	11	5		40		20			9	5
BZV90-C11	SOT223	11	5		40		20			9	
BZV55-C11	SOD80	11	5	0.5	30	50	20			9	5
BZV60-C11	SOD68	11	5	0.5	30	50	20			9	5

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom	@ I_Z	P_{max}	P_{ZSM}	@ T_{tp}	r_{diff} max	S_Z	@ I_Z	S_F	@ I_F
		V	mA	W	W	Cel	Ohm	%/K	mA	mV/K	mA
PMBZ5241B	SOT23	11	20				600	0.058	7.5		
PMLL5241B	SOD80	11	20	0.5	10	75	600	0.076	7.5		
1N5241B	DO-35	11	20	0.5	10	75	600	0.076	7.5		
BZV85-C11 €	DO-41	11	20	1.3	60	55	10			9.3	20
1N4741A	DO-41	11	23								
BZD27-C11	SOD87	11	50	2.3	300	105	7	0.1	50		
BZD23-C11	SOD81	11	50	2.5	300	25	7	0.1	50		
BZT03-C11 €	SOD57	11	50	3.25	600	25	7	0.1	50		
BZW03-C11 €	SOD64	11	125	6	1000	25	2.5	0.1	125		
BZY93-C11	DO-4	11	1000		700		1	7.5	1000		
BZY93-C11R	DO-4	11	1000		700		1	7.5	1000		
BZY91-C11	DO-5	11	2000	100	9500		0.4				
BZY91-C11R	DO-5	11	2000	100	9500		0.4				
BZX84-C12	SOT23	12	5				25			10	5
BZX55-C12 €	DO-35	12	5		30		20				
BZV49-C12	SOT89	12	5		40		25			10	5
BZV90-C12	SOT223	12	5		40		25			10	
BZV55-C12	SOD80	12	5	0.5	30	50	25			10	5
BZV60-C12	SOD68	12	5	0.5	30	50	25			10	5
BZX79-C12 €	DO-35	12	5	0.5	30	50	10			10	5
PMBZ5242B	SOT23	12	20				600	0.062	7.5		
PMLL5242B	SOD80	12	20	0.5	10	75	600	0.077	7.5		
1N5242B	DO-35	12	20	0.5	10	75	600	0.077	7.5		
BZV85-C12 €	DO-41	12	20	1.3	60	55	10			10.8	20
1N4742A	DO-41	12	21								
BZD27-C12	SOD87	12	50	2.3	300	105	7	0.1	50		
BZD23-C12	SOD81	12	50	2.5	300	25	7	0.1	50		
BZT03-C12 €	SOD57	12	50	3.25	600	25	7	0.1	50		
BZW03-C12 €	SOD64	12	100	6	1000	25	2.5	0.1	100		
BZY93-C12	DO-4	12	1000		700		1	8	1000		
BZY93-C12R	DO-4	12	1000		700		1	8	1000		
BZY91-C12	DO-5	12	2000	100	9500		0.5				
BZY91-C12R	DO-5	12	2000	100	9500		0.5				
BZX84-C13	SOT23	13	5				30			11	5
BZX55-C13 €	DO-35	13	5		30		26				
BZV49-C13	SOT89	13	5		40		30			11	5
BZV90-C13	SOT223	13	5		40		30			11	
BZV55-C13	SOD80	13	5	0.5	30	50	30			11	5
BZV60-C13	SOD68	13	5	0.5	30	50	30			11	5
BZX79-C13 €	DO-35	13	5	0.5	30	50	10			11	5
PMBZ5243B	SOT23	13	9.5				600	0.065	9.5		
PMLL5243B	SOD80	13	9.5	0.5	10	75	600	0.079	9.5		
1N5243B	DO-35	13	9.5	0.5	10	75	600	0.079	9.5		
1N4743A	DO-41	13	19								
BZV85-C13 €	DO-41	13	20	1.3	60	55	10			12	20
BZD27-C13	SOD87	13	50	2.3	300	105	10	0.1	50		
BZD23-C13	SOD81	13	50	2.5	300	25	10	0.1	50		
BZT03-C13 €	SOD57	13	50	3.25	600	25	10	0.1	50		
BZW03-C13 €	SOD64	13	100	6	1000	25	2.5	0.1	100		
BZY93-C13	DO-4	13	1000		700		1	8.5	1000		
BZY93-C13R	DO-4	13	1000		700		1	8.5	1000		

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZY91-C13	DO-5	13	2000	100	9500		0.5				
BZY91-C13R	DO-5	13	2000	100	9500		0.5				
PMBZ5244B	SOT23	14	9				600	0.067	9		
1N5244B	DO-35	14	9	0.5	10	75	600	0.082	9		
PMLL5244B	SOD80	14	9.5	0.5	10	75	600	0.082	9		
BZX84-C15	SOT23	15	5				30			13	5
BZX55-C15 ∈	DO-35	15	5		30		30				
BZV49-C15	SOT89	15	5		40		30			13	5
BZV90-C15	SOT223	15	5		40		30			13	
BZV55-C15	SOD80	15	5	0.5	30	50	30			13	5
BZV60-C15	SOD68	15	5	0.5	30	50	30			13	5
BZX79-C15 ∈	DO-35	15	5	0.5	30	50	10			13	5
PMBZ5245B	SOT23	15	8.5				600	0.073	8.5		
PMLL5245B	SOD80	15	8.5	0.5	10	75	600	0.082	8.5		
1N5245B	DO-35	15	8.5	0.5	10	75	600	0.082	8.5		
BZV85-C15 ∈	DO-41	15	15	1.3	60	55	15			13.6	15
1N4744A	DO-41	15	17								
BZD27-C15	SOD87	15	50	2.3	300	105	10	0.1	50		
BZD23-C15	SOD81	15	50	2.5	300	25	10	0.1	50		
BZT03-C15 ∈	SOD57	15	50	3.25	600	25	10	0.1	50		
BZW03-C15 ∈	SOD64	15	75	6	1000	25	2.5	0.1	75		
BZY93-C15	DO-4	15	1000		700		1.2	10	1000		
BZY93-C15R	DO-4	15	1000		700		1.2	10	1000		
BZY91-C15	DO-5	15	2000	100	9500		0.6				
BZY91-C15R	DO-5	15	2000	100	9500		0.6				
BZX84-C16	SOT23	16	5				40			14	5
BZX55-C16 ∈	DO-35	16	5		30		40				
BZV49-C16	SOT89	16	5		40		40			14	5
BZV90-C16	SOT223	16	5		40		40			14	
BZV55-C16	SOD80	16	5	0.5	30	50	40			14	5
BZV60-C16	SOD68	16	5	0.5	30	50	40			14	5
BZX79-C16 ∈	DO-35	16	5	0.5	30	50	10			14	5
PMBZ5246B	SOT23	16	7.8				600	0.073	7.8		
PMLL5246B	SOD80	16	7.8	0.5	10	75	600	0.083	7.8		
1N5246B	DO-35	16	7.8	0.5	10	75	600	0.083	7.8		
BZV85-C16 ∈	DO-41	16	15	1.3	60	55	15			15.4	15
1N4745A	DO-41	16	15.5								
BZD27-C16	SOD87	16	25	2.3	300	105	15	0.11	25		
BZD23-C16	SOD81	16	25	2.5	300	25	15	0.11	25		
BZT03-C16 ∈	SOD57	16	25	3.25	600	25	15	0.11	25		
BZW03-C16 ∈	SOD64	16	75	6	1000	25	2.5	0.11	75		
BZY93-C16	DO-4	16	500		700		1.2	11	500		
BZY93-C16R	DO-4	16	500		700		1.2	11	500		
BZY91-C16	DO-5	16	2000	100	9500		0.6				
BZY91-C16R	DO-5	16	2000	100	9500		0.6				
PMBZ5247B	SOT23	17	7.4				600	0.073	7.4		
PMLL5247B	SOD80	17	7.4	0.5	10	75	600	0.084	7.4		
1N5247B	DO-35	17	7.4	0.5	10	75	600	0.084	7.4		
BZX84-C18	SOT23	18	5				45			16	5
BZX55-C18 ∈	DO-35	18	5		30		50				
BZV49-C18	SOT89	18	5		40		45			16	5

Voltage regulator (cont.)

Stabiliser diodes

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZV90-C18	SOT223	18	5		40		45			16	
BZV55-C18	SOD80	18	5	0.5	30	50	45			16	5
BZV60-C18	SOD68	18	5	0.5	30	50	45			16	5
BZX79-C18 €	DO-35	18	5	0.5	30	50	10			16	5
PMBZ5248B	SOT23	18	7				600	0.078	7		
PMLL5248B	SOD80	18	7	0.5	10	75	600	0.085	7		
1N5248B	DO-35	18	7	0.5	10	75	600	0.085	7		
1N4746A	DO-41	18	14								
BZV85-C18 €	DO-41	18	15	1.3	60	55	20			17.1	15
BZD27-C18	SOD87	18	25	2.3	300	105	15	0.11	25		
BZD23-C18	SOD81	18	25	2.5	300	25	15	0.11	25		
BZT03-C18 €	SOD57	18	25	3.25	600	25	15	0.11	25		
BZW03-C18 €	SOD64	18	65	6	1000	25	2.5	0.11	65		
BZY93-C18	DO-4	18	500		700		1.5	12	500		
BZY93-C18R	DO-4	18	500		700		1.5	12	500		
BZY91-C18	DO-5	18	2000	100	9500		0.7				
BZY91-C18R	DO-5	18	2000	100	9500		0.7				
PMBZ5249B	SOT23	19	6.6				600	0.078	6.6		
PMLL5249B	SOD80	19	6.6	0.5	10	75	600	0.086	6.6		
1N5249B	DO-35	19	6.6	0.5	10	75	600	0.086	6.6		
BZX84-C20	SOT23	20	5				55			18	5
BZX55-C20 €	DO-35	20	5		30		55				
BZV49-C20	SOT89	20	5		40		55			18	5
BZV90-C20	SOT223	20	5		40		55			18	
BZV55-C20	SOD80	20	5	0.5	30	50	55			18	5
BZV60-C20	SOD68	20	5	0.5	30	50	55			18	5
BZX79-C20 €	DO-35	20	5	0.5	30	50	15			18	5
PMBZ5250B	SOT23	20	6.2				600	0.08	6.2		
PMLL5250B	SOD80	20	6.2	0.5	10	75	600	0.086	6.2		
1N5250B	DO-35	20	6.2	0.5	10	75	600	0.086	6.2		
BZV85-C20 €	DO-41	20	10	1.3	60	55	24			19.1	10
1N4747A	DO-41	20	12.5								
BZD27-C20	SOD87	20	25	2.3	300	105	15	0.11	25		
BZD23-C20	SOD81	20	25	2.5	300	25	15	0.11	25		
BZT03-C20 €	SOD57	20	25	3.25	600	25	15	0.11	25		
BZW03-C20 €	SOD64	20	65	6	1000	25	3	0.11	65		
BZY93-C20	DO-4	20	500		700		1.5	14	500		
BZY93-C20R	DO-4	20	500		700		1.5	14	500		
BZY91-C20	DO-5	20	1000	100	9500		0.8				
BZY91-C20R	DO-5	20	1000	100	9500		0.8				
BZX84-C22	SOT23	22	5				55			20	5
BZX55-C22 €	DO-35	22	5		30		55				
BZV49-C22	SOT89	22	5		40		55			20	5
BZV90-C22	SOT223	22	5		40		55			20	
BZV55-C22	SOD80	22	5	0.5	30	50	55			20	5
BZV60-C22	SOD68	22	5	0.5	30	50	55			20	5
BZX79-C22 €	DO-35	22	5	0.5	30	50	20			20	5
PMBZ5251B	SOT23	22	5.6				600	0.08	5.6		
PMLL5251B	SOD80	22	5.6	0.5	10	75	600	0.087	5.6		
1N5251B	DO-35	22	5.6	0.5	10	75	600	0.087	5.6		
BZV85-C22 €	DO-41	22	10	1.3	60	55	25			22.1	10

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
1N4748A	DO-41	22	11.5								
BZD27-C22	SOD87	22	25	2.3	300	105	15	0.11	25		
BZD23-C22	SOD81	22	25	2.5	300	25	15	0.11	25		
BZT03-C22 €	SOD57	22	25	3.25	600	25	15	0.11	25		
BZW03-C22 €	SOD64	22	50	6	1000	25	3.5	0.11	50		
BZY93-C22	DO-4	22	500		700		1.8	16	500		
BZY93-C22R	DO-4	22	500		700		1.8	16	500		
BZY91-C22	DO-5	22	1000	100	9500		0.8				
BZY91-C22R	DO-5	22	1000	100	9500		0.8				
BZX84-C24	SOT23	24	5				70			22	5
BZX55-C24 €	DO-35	24	5		30		80				
BZV49-C24	SOT89	24	5		40		70			22	5
BZV90-C24	SOT223	24	5		40		70			22	
BZV55-C24	SOD80	24	5	0.5	30	50	70			22	5
BZV60-C24	SOD68	24	5	0.5	30	50	70			22	5
BZX79-C24 €	DO-35	24	5	0.5	30	50	25			22	5
PMBZ5252B	SOT23	24	5.2				600	0.081	5.2		
PMLL5252B	SOD80	24	5.2	0.5	10	75	600	0.088	5.2		
1N5252B	DO-35	24	5.2	0.5	10	75	600	0.088	5.2		
BZV85-C24 €	DO-41	24	10	1.3	60	55	30			24.3	10
1N4749A	DO-41	24	10.5								
BZD27-C24	SOD87	24	25	2.3	300	105	15	0.11	25		
BZD23-C24	SOD81	24	25	2.5	300	25	15	0.11	25		
BZT03-C24 €	SOD57	24	25	3.25	600	25	15	0.11	25		
BZW03-C24 €	SOD64	24	50	6	1000	25	3.5	0.11	50		
BZY93-C24	DO-4	24	500		700		2	18	500		
BZY93-C24R	DO-4	24	500		700		2	18	500		
BZY91-C24	DO-5	24	1000	100	9500		0.9				
BZY91-C24R	DO-5	24	1000	100	9500		0.9				
PMBZ5253B	SOT23	25	5				600	0.082	5		
PMLL5253B	SOD80	25	5	0.5	10	75	600	0.089	5		
1N5253B	DO-35	25	5	0.5	10	75	600	0.089	5		
BZX84-C27	SOT23	27	2				80			25.3	2
BZV90-C27	SOT223	27	2		40		80			25.3	
BZV55-C27	SOD80	27	2	0.5	30	50	80			25.3	2
BZV60-C27	SOD68	27	2	0.5	30	50	80			25.3	2
BZX79-C27 €	DO-35	27	2	0.5	30	50	25			25.3	2
PMBZ5254B	SOT23	27	4.6				600	0.085	4.6		
PMLL5254B	SOD80	27	4.6	0.5	10	75	600	0.09	4.6		
1N5254B	DO-35	27	4.6	0.5	10	75	600	0.09	4.6		
BZX55-C27 €	DO-35	27	5		30		80				
BZV49-C27	SOT89	27	5		40		80			25.3	2
BZV85-C27 €	DO-41	27	8	1.3	60	55	40			27.5	8
BZD27-C27	SOD87	27	25	2.3	300	105	15	0.11	25		
BZD23-C27	SOD81	27	25	2.5	300	25	15	0.11	25		
BZT03-C27 €	SOD57	27	25	3.25	600	25	15	0.11	25		
BZW03-C27 €	SOD64	27	50	6	1000	25	5	0.11	50		
BZY93-C27	DO-4	27	500		700		2	21	500		
BZY93-C27R	DO-4	27	500		700		2	21	500		
BZY91-C27	DO-5	27	1000	100	9500		1				
BZY91-C27R	DO-5	27	1000	100	9500		1				

Voltage regulator (cont.)

Stabiliser diodes

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
PMBZ5255B	SOT23	28	4.5				600	0.085	4.5		
PMLL5255B	SOD80	28	4.5	0.5	10	75	600	0.091	4.5		
1N5255B	DO-35	28	4.5	0.5	10	75	600	0.091	4.5		
BZX84-C30	SOT23	30	2				80			29.4	2
BZV49-C30	SOT89	30	2		40		80			29.4	2
BZV90-C30	SOT223	30	2		40		80			29.4	
BZV55-C30	SOD80	30	2	0.5	30	50	80			29.4	2
BZV60-C30	SOD68	30	2	0.5	30	50	80			29.4	2
BZX79-C30 €	DO-35	30	2	0.5	30	50	30			29.4	2
PMBZ5256B	SOT23	30	4.2				600	0.085	4.2		
PMLL5256B	SOD80	30	4.2	0.5	10	75	600	0.091	4.2		
1N5256B	DO-35	30	4.2	0.5	10	75	600	0.091	4.2		
BZX55-C30 €	DO-35	30	5		30		80				
BZV85-C30 €	DO-41	30	8	1.3	60	55	45			32	8
BZD27-C30	SOD87	30	25	2.3	300	105	15	0.11	25		
BZD23-C30	SOD81	30	25	2.5	300	25	15	0.11	25		
BZT03-C30 €	SOD57	30	25	3.25	600	25	15	0.11	25		
BZW03-C30 €	SOD64	30	40	6	1000	25	8	0.11	40		
BZY93-C30	DO-4	30	500		700		2.5	25	500		
BZY93-C30R	DO-4	30	500		700		2.5	25	500		
BZY91-C30	DO-5	30	1000	100	9500		1.1				
BZY91-C30R	DO-5	30	1000	100	9500		1.1				
BZX84-C33	SOT23	33	2				80			33.4	2
BZV49-C33	SOT89	33	2		40		80			33.4	2
BZV90-C33	SOT223	33	2		40		80			33.4	
BZV55-C33	SOD80	33	2	0.5	30	50	80			33.4	2
BZV60-C33	SOD68	33	2	0.5	30	50	80			33.4	2
BZX79-C33 €	DO-35	33	2	0.5	30	50	35			33.4	2
PMBZ5257B	SOT23	33	3.8				700	0.085	3.8		
PMLL5257B	SOD80	33	3.8	0.5	10	75	700	0.092	3.8		
1N5257B	DO-35	33	3.8	0.5	10	75	700	0.092	3.8		
BZX55-C33 €	DO-35	33	5		30		80				
BZV85-C33 €	DO-41	33	8	1.3	60	55	45			35	8
BZD27-C33	SOD87	33	25	2.3	300	105	15	0.11	25		
BZD23-C33	SOD81	33	25	2.5	300	25	15	0.11	25		
BZT03-C33 €	SOD57	33	25	3.25	600	25	15	0.11	25		
BZW03-C33 €	SOD64	33	40	6	1000	25	10	0.11	40		
BZY93-C33	DO-4	33	500		700		3	30	500		
BZY93-C33R	DO-4	33	500		700		3	30	500		
BZY91-C33	DO-5	33	1000	100	9500		1.2				
BZY91-C33R	DO-5	33	1000	100	9500		1.2				
BZX84-C36	SOT23	36	2				90			37.4	2
BZV49-C36	SOT89	36	2		40		90			37.4	2
BZV90-C36	SOT223	36	2		40		90			37.4	
BZV55-C36	SOD80	36	2	0.5	30	50	90			37.4	2
BZV60-C36	SOD68	36	2	0.5	30	50	90			37.4	2
BZX79-C36 €	DO-35	36	2	0.5	30	50	35			37.4	2
PMLL5258B	SOD80	36	3.4	0.5	10	75	700	0.093	3.4		
1N5258B	DO-35	36	3.4	0.5	10	75	700	0.093	3.4		
BZX55-C36 €	DO-35	36	5		30		80				
BZV85-C36 €	DO-41	36	8	1.3	60	55	50			39.9	8

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom	@ I_Z	P_{max}	P_{ZSM}	@ T_{tp}	r_{diff} max	S_Z	@ I_Z	S_F	@ I_F
		V	mA	W	W	Cel	Ohm	%/K	mA	mV/K	mA
BZD27-C36	SOD87	36	10	2.3	300	105	40	0.11	10		
BZD23-C36	SOD81	36	10	2.5	300	25	40	0.11	10		
BZT03-C36 €	SOD57	36	10	3.25	600	25	15	0.11	10		
BZW03-C36 €	SOD64	36	30	6	1000	25	11	0.11	30		
BZY93-C36	DO-4	36	200		700		4	32	200		
BZY93-C36R	DO-4	36	200		700		4	32	200		
BZY91-C36	DO-5	36	1000	100	9500		1.3				
BZY91-C36R	DO-5	36	1000	100	9500		1.3				
BZX84-C39	SOT23	39	2				130			41.2	2
BZV49-C39	SOT89	39	2		40		130			41.2	2
BZV90-C39	SOT223	39	2		40		130			41.2	
BZV55-C39	SOD80	39	2	0.5	30	50	130			41.2	2
BZV60-C39	SOD68	39	2	0.5	30	50	130			41.2	2
BZX79-C39 €	DO-35	39	2	0.5	30	50	40			41.2	2
BZX55-C39 €	DO-35	39	2.5		30		90				
PMLL5259B	SOD80	39	3.2	0.5	10	75	800	0.094	3.2		
1N5259B	DO-35	39	3.2	0.5	10	75	800	0.094	3.2		
BZV85-C39 €	DO-41	39	6	1.3	60	55	60			43	6
BZD27-C39	SOD87	39	10	2.3	300	105	40	0.11	10		
BZD23-C39	SOD81	39	10	2.5	300	25	40	0.11	10		
BZT03-C39 €	SOD57	39	10	3.25	600	25	40	0.11	10		
BZW03-C39 €	SOD64	39	30	6	1000	25	14	0.11	30		
BZY93-C39	DO-4	39	200		700		5	35	200		
BZY93-C39R	DO-4	39	200		700		5	35	200		
BZY91-C39	DO-5	39	500	100	9500		1.4				
BZY91-C39R	DO-5	39	500	100	9500		1.4				
BZX84-C43	SOT23	43	2				150			46.6	2
BZV49-C43	SOT89	43	2		40		150			46.6	2
BZV90-C43	SOT223	43	2		40		150			46.6	
BZV55-C43	SOD80	43	2	0.5	30	50	150			46.6	2
BZV60-C43	SOD68	43	2	0.5	30	50	150			46.6	2
BZX79-C43 €	DO-35	43	2	0.5	30	50	45			46.6	2
BZX55-C43 €	DO-35	43	2.5		30		90				
PMLL5260B	SOD80	43	3	0.5	10	75	900	0.095	3		
1N5260B	DO-35	43	3	0.5	10	75	900	0.095	3		
BZV85-C43 €	DO-41	43	6	1.3	60	55	75			48.3	6
BZD27-C43	SOD87	43	10	2.3	300	105	45	0.12	10		
BZD23-C43	SOD81	43	10	2.5	300	25	45	0.12	10		
BZT03-C43 €	SOD57	43	10	3.25	600	25	45	0.12	10		
BZW03-C43 €	SOD64	43	30	6	1000	25	20	0.12	30		
BZY93-C43	DO-4	43	200		700		6.5	40	200		
BZY93-C43R	DO-4	43	200		700		6.5	40	200		
BZY91-C43	DO-5	43	500	100	9500		1.5				
BZY91-C43R	DO-5	43	500	100	9500		1.5				
BZX84-C47	SOT23	47	2				170			51.8	2
BZV49-C47	SOT89	47	2		40		170			51.8	2
BZV90-C47	SOT223	47	2		40		170			51.8	
BZV55-C47	SOD80	47	2	0.5	30	50	170			51.8	2
BZV60-C47	SOD68	47	2	0.5	30	50	170			51.8	2
BZX79-C47 €	DO-35	47	2	0.5	30	50	50			51.8	2

Voltage regulator (cont.)

Stabiliser diodes

typenumber	outline	V ref nom	@ I Z	P max	P ZSM	@ T tp	r diff max	S Z	@ I Z	S F	@ I F
		V	mA	W	W	Cel	Ohm	%/K	mA	mV/K	mA
BZX55-C47 ∈	DO-35	47	2.5		30		110				
PMLL5261B	SOD80	47	2.7	0.5	10	75	1000	0.095	2.7		
1N5261B	DO-35	47	2.7	0.5	10	75	1000	0.095	2.7		
BZV85-C47	DO-41	47	4	1.3	60	55	100			52.5	4
BZD27-C47	SOD87	47	10	2.3	300	105	45	0.12	10		
BZD23-C47	SOD81	47	10	2.5	300	25	45	0.12	10		
BZT03-C47 ∈	SOD57	47	10	3.25	600	25	45	0.12	10		
BZW03-C47 ∈	SOD64	47	25	6	1000	25	25	0.12	25		
BZY93-C47	DO-4	47	200		700		7	45	200		
BZY93-C47R	DO-4	47	200		700		7	45	200		
BZY91-C47	DO-5	47	500	100	9500		1.7				
BZY91-C47R	DO-5	47	500	100	9500		1.7				
BZX84-C51	SOT23	51	2				180			57.2	2
BZV49-C51	SOT89	51	2		40		180			57.2	2
BZV90-C51	SOT223	51	2		40		180			57.2	
BZV55-C51	SOD80	51	2	0.5	30	50	180			57.2	2
BZV60-C51	SOD68	51	2	0.5	30	50	180			57.2	2
BZX79-C51 ∈	DO-35	51	2	0.5	30	50	60			57.2	2
BZX55-C51 ∈	DO-35	51	2.5		30		125				
PMLL5262B	SOD80	51	2.5	0.5	10	75	1100	0.096	2.5		
1N5262B	DO-35	51	2.5	0.5	10	75	1100	0.096	2.5		
BZV85-C51 ∈	DO-41	51	4	1.3	60	55	125			56.5	4
BZD27-C51	SOD87	51	10	2.3	300	105	60	0.12	10		
BZD23-C51	SOD81	51	10	2.5	300	25	60	0.12	10		
BZT03-C51 ∈	SOD57	51	10	3.25	600	25	60	0.12	10		
BZW03-C51 ∈	SOD64	51	25	6	1000	25	27	0.12	25		
BZY93-C51	DO-4	51	200		700		7.5	50	200		
BZY93-C51R	DO-4	51	200		700		7.5	50	200		
BZY91-C51	DO-5	51	500	100	9500		1.8				
BZY91-C51R	DO-5	51	500	100	9500		1.8				
BZX84-C56	SOT23	56	2				200			63.8	2
BZV49-C56	SOT89	56	2		40		200			63.8	2
BZV90-C56	SOT223	56	2		40		200			63.8	
BZV55-C56	SOD80	56	2	0.5	30	50	200			63.8	2
BZV60-C56	SOD68	56	2	0.5	30	50	200			63.8	2
BZX79-C56 ∈	DO-35	56	2	0.5	30	50	70			63.8	2
PMLL5263B	SOD80	56	2.2	0.5	10	75	1300	0.096	2.2		
1N5263B	DO-35	56	2.2	0.5	10	75	1300	0.096	2.2		
BZX55-C56 ∈	DO-35	56	2.5		30		135				
BZV85-C56 ∈	DO-41	56	4	1.3	60	55	150			63	4
BZD27-C56	SOD87	56	10	2.3	300	105	60	0.12	10		
BZD23-C56	SOD81	56	10	2.5	300	25	60	0.12	10		
BZT03-C56 ∈	SOD57	56	10	3.25	600	25	60	0.12	10		
BZW03-C56 ∈	SOD64	56	20	6	1000	25	35	0.12	20		
BZY93-C56	DO-4	56	200		700		8	55	200		
BZY93-C56R	DO-4	56	200		700		8	55	200		
BZY91-C56	DO-5	56	500	100	9500		2				
BZY91-C56R	DO-5	56	500	100	9500		2				
PMLL5264B	SOD80	60	2.1	0.5	10	75	1400	0.097	2.1		
1N5264B	DO-35	60	2.1	0.5	10	75	1400	0.097	2.1		
BZX84-C62	SOT23	62	2				215			71.6	2

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom V	@ I_Z mA	P_{max} W	P_{ZSM} W	@ T_{tp} Cel	r_{diff} max Ohm	S_Z %/K	@ I_Z mA	S_F mV/K	@ I_F mA
BZV49-C62	SOT89	62	2		40		215			71.6	2
BZV90-C62	SOT223	62	2		40		215			71.6	
PMLL5265B	SOD80	62	2	0.5	10	75	1400	0.097	2		
1N5265B	DO-35	62	2	0.5	10	75	1400	0.097	2		
BZV55-C62	SOD80	62	2	0.5	30	50	215			71.6	2
BZV60-C62	SOD68	62	2	0.5	30	50	215			71.6	2
BZX79-C62 €	DO-35	62	2	0.5	30	50	80			71.6	2
BZX55-C62 €	DO-35	62	2.5		30		150				
BZV85-C62 €	DO-41	62	4	1.3	60	55	175			72.5	4
BZD27-C62	SOD87	62	10	2.3	300	105	80	0.13	10		
BZD23-C62	SOD81	62	10	2.5	300	25	80	0.13	10		
BZT03-C62 €	SOD57	62	10	3.25	600	25	80	0.13	10		
BZW03-C62 €	SOD64	62	20	6	1000	25	42	0.13	20		
BZY93-C62	DO-4	62	200		700		9	60	200		
BZY93-C62R	DO-4	62	200		700		9	60	200		
BZY91-C62	DO-5	62	500	100	9500		2.2				
BZY91-C62R	DO-5	62	500	100	9500		2.2				
PMLL5266B	SOD80	68	1.8	0.5	10	75	1600	0.097	1.8		
1N5266B	DO-35	68	1.8	0.5	10	75	1600	0.097	1.8		
BZX84-C68	SOT23	68	2				240			79.8	2
BZV49-C68	SOT89	68	2		40		240			79.8	2
BZV90-C68	SOT223	68	2		40		240			79.8	
BZV55-C68	SOD80	68	2	0.5	30	50	240			79.8	2
BZV60-C68	SOD68	68	2	0.5	30	50	240			79.8	2
BZX79-C68 €	DO-35	68	2	0.5	30	50	90			79.8	2
BZX55-C68 €	DO-35	68	2.5		30		200				
BZV85-C68 €	DO-41	68	4	1.3	60	55	200			81	4
BZD27-C68	SOD87	68	10	2.3	300	105	80	0.13	10		
BZD23-C68	SOD81	68	10	2.5	300	25	80	0.13	10		
BZT03-C68 €	SOD57	68	10	3.25	600	25	80	0.13	10		
BZW03-C68 €	SOD64	68	20	6	1000	25	44	0.13	20		
BZY93-C68	DO-4	68	200		700		10	65	200		
BZY93-C68R	DO-4	68	200		700		10	65	200		
BZY91-C68	DO-5	68	500	100	9500		2.4				
BZY91-C68R	DO-5	68	500	100	9500		2.4				
PMLL5267B	SOD80	75	1.7	0.5	10	75	1700	0.098	1.7		
1N5267B	DO-35	75	1.7	0.5	10	75	1700	0.098	1.7		
BZX84-C75	SOT23	75	2				255			88.6	2
BZV49-C75	SOT89	75	2		40		255			88.6	2
BZV90-C75	SOT223	75	2		40		255			88.6	
BZV55-C75	SOD80	75	2	0.5	30	50	240			88.6	2
BZV60-C75	SOD68	75	2	0.5	30	50	255			88.6	2
BZX79-C75 €	DO-35	75	2	0.5	30	50	95			88.6	2
BZX55-C75 €	DO-35	75	2.5		30		250				
BZV85-C75 €	DO-41	75	4	1.3	60	55	225			88	4
BZD27-C75	SOD87	75	10	2.3	300	105	100	0.13	10		
BZD23-C75	SOD81	75	10	2.5	300	25	100	0.13	10		
BZT03-C75 €	SOD57	75	10	3.25	600	25	100	0.13	10		
BZW03-C75 €	SOD64	75	20	6	1000	25	45	0.13	20		
BZY93-C75	DO-4	75	200		700		10.5	70	200		
BZY93-C75R	DO-4	75	200		700		10.5	70	200		

Voltage regulator (cont.)

Stabiliser diodes

typenumber	outline	V_{ref} nom	@ I_Z	P_{max}	P_{ZSM}	@ T_{tp}	r_{diff} max	S_Z	@ I_Z	S_F	@ I_F
		V	mA	W	W	Cel	Ohm	%/K	mA	mV/K	mA
BZY91-C75	DO-5	75	500	100	9500		2.6				
BZY91-C75R	DO-5	75	500	100	9500		2.6				
BZD27-C82	SOD87	82	10	2.3	300	105	100	0.13	10		
BZD23-C82	SOD81	82	10	2.5	300	25	100	0.13	10		
BZT03-C82 ∈	SOD57	82	10	3.25	600	25	100	0.13	10		
BZW03-C82 ∈	SOD64	82	15	6	1000	25	65	0.13	15		
BZD27-C91	SOD87	91	5	2.3	300	105	200	0.13	5		
BZD23-C91	SOD81	91	5	2.5	300	25	200	0.13	5		
BZT03-C91 ∈	SOD57	91	5	3.25	600	25	200	0.13	5		
BZW03-C91 ∈	SOD64	91	15	6	1000	25	75	0.13	15		
BZD27-C100	SOD87	100	5	2.3	300	105	200	0.13	5		
BZD23-C100	SOD81	100	5	2.5	300	25	200	0.13	5		
BZT03-C100 ∈	SOD57	100	5	3.25	600	25	200	0.13	5		
BZW03-C100 ∈	SOD64	100	12	6	1000	25	90	0.13	12		
BZD27-C110	SOD87	110	5	2.3	300	105	250	0.13	5		
BZD23-C110	SOD81	110	5	2.5	300	25	250	0.13	5		
BZT03-C110 ∈	SOD57	110	5	3.25	600	25	250	0.13	5		
BZW03-C110 ∈	SOD64	110	12	6	1000	25	125	0.13	12		
BZD27-C120	SOD87	120	5	2.3	300	105	250	0.13	5		
BZD23-C120	SOD81	120	5	2.5	300	25	250	0.13	5		
BZT03-C120 ∈	SOD57	120	5	3.25	600	25	250	0.13	5		
BZW03-C120 ∈	SOD64	120	10	6	1000	25	170	0.13	10		
BZD27-C130	SOD87	130	5	2.3	300	105	300	0.13	5		
BZD23-C130	SOD81	130	5	2.5	300	25	300	0.13	5		
BZT03-C130 ∈	SOD57	130	5	3.25	600	25	300	0.13	5		
BZW03-C130 ∈	SOD64	130	10	6	1000	25	190	0.13	10		
BZD27-C150	SOD87	150	5	2.3	300	105	300	0.13	5		
BZD23-C150	SOD81	150	5	2.5	300	25	300	0.13	5		
BZT03-C150 ∈	SOD57	150	5	3.25	600	25	300	0.13	5		
BZW03-C150 ∈	SOD64	150	8	6	1000	25	330	0.13	8		
BZD27-C160	SOD87	160	5	2.3	300	105	350	0.13	5		
BZD23-C160	SOD81	160	5	2.5	300	25	350	0.13	5		
BZT03-C160 ∈	SOD57	160	5	3.25	600	25	350	0.13	5		
BZW03-C160 ∈	SOD64	160	8	6	1000	25	350	0.13	8		
BZD27-C180	SOD87	180	5	2.3	300	105	400	0.13	5		
BZD23-C180	SOD81	180	5	2.5	300	25	400	0.13	5		
BZT03-C180 ∈	SOD57	180	5	3.25	600	25	400	0.13	5		
BZW03-C180 ∈	SOD64	180	5	6	1000	25	430	0.13	5		
BZD27-C200	SOD87	200	5	2.3	300	105	500	0.13	5		
BZD23-C200	SOD81	200	5	2.5	300	25	500	0.13	5		
BZT03-C200 ∈	SOD57	200	5	3.25	600	25	500	0.13	5		
BZW03-C200 ∈	SOD64	200	5	6	1000	25	500	0.13	5		
BZD27-C220	SOD87	220	2	2.3	300	105	750	0.13	2		
BZD23-C220	SOD81	220	2	2.5	300	25	750	0.13	2		
BZT03-C220 ∈	SOD57	220	2	3.25	600	25	750	0.13	2		
BZW03-C220 ∈	SOD64	220	5	6	1000	25	700	0.13	5		
BZD27-C240	SOD87	240	2	2.3	300	105	850	0.13	2		
BZD23-C240	SOD81	240	2	2.5	300	25	850	0.13	2		
BZT03-C240 ∈	SOD57	240	2	3.25	600	25	850	0.13	2		
BZW03-C240 ∈	SOD64	240	5	6	1000	25	900	0.13	5		
BZD27-C270	SOD87	270	2	2.3	300	105	1000	0.13	2		

Stabiliser diodes

Voltage regulator (cont.)

typenumber	outline	V_{ref} nom	@ I_Z	P_{max}	P_{ZSM}	@ T_{tp}	r_{diff} max	S_Z	@ I_Z	S_F	@ I_F
		V	mA	W	W	Cεı	Ohm	%/K	mA	mV/K	mA
BZD23-C270	SOD81	270	2	2.5	300	25	1000	0.13	2		
BZT03-C270 €	SOD57	270	2	3.25	600	25	1000	0.13	2		
BZW03-C270 €	SOD64	270	5	6	1000	25	1200	0.13	5		

Transient suppressor

Stabiliser diodes

typenumber	outline	$V_{(CL)R}$ V	@ I_{RSM} A	P_{max} W	@ T_{tp} Cel	P_{ZSM} W	@ t_p us	P_{RSM} W	@ T_j Cel	@ shape	@ t_1 us	@ t_2 us
BZY93-C7V5	DO-4	9.2	20			700	1000					
BZY93-C7V5R	DO-4	9.2	20			700	1000					
BZY93-C8V2	DO-4	10.2	20			700	1000					
BZY93-C8V2R	DO-4	10.2	20			700	1000					
BZY91-C8V2	DO-5	10.5	150	100		9500	1000			EXP		
BZY91-C8V2R	DO-5	10.5	150	100		9500	1000			EXP		
BZY91-C9V1	DO-5	11	150	100		9500	1000			EXP		
BZY91-C9V1R	DO-5	11	150	100		9500	1000			EXP		
BZD27-C7V5	SOD87	11.3	13.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C7V5	SOD81	11.3	13.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C7V5 ●	SOD57	11.3	26.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C7V5	SOD64	11.3	44.2	6	25	1000	100	500	25	EXP	10	1000
BZY93-C9V1	DO-4	11.5	20			700	1000					
BZY93-C9V1R	DO-4	11.5	20			700	1000					
BZD27-C8V2	SOD87	12.3	12.2	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C8V2	SOD81	12.3	12.2	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C8V2 ●	SOD57	12.3	24.4	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C8V2	SOD64	12.3	40.6	6	25	1000	100	500	25	EXP	10	1000
BZY93-C10	DO-4	12.5	20			700	1000					
BZY93-C10R	DO-4	12.5	20			700	1000					
BZY91-C10	DO-5	12.5	150	100		9500	1000			EXP		
BZY91-C10R	DO-5	12.5	150	100		9500	1000			EXP		
BZD27-C9V1	SOD87	13.3	11.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C9V1	SOD81	13.3	11.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C9V1 ●	SOD57	13.3	22.7	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C9V1 ●	SOD64	13.3	37.6	6	25	1000	100	500	25	EXP	10	1000
BZY91-C11	DO-5	13.5	150	100		9500	1000			EXP		
BZY91-C11R	DO-5	13.5	150	100		9500	1000			EXP		
BZY93-C11	DO-4	14	20			700	1000					
BZY93-C11R	DO-4	14	20			700	1000					
BZD27-C10	SOD87	14.8	10.1	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C10	SOD81	14.8	10.1	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C10 ●	SOD57	14.8	20.3	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C10 ●	SOD64	14.8	34	6	25	1000	100	500	25	EXP	10	1000
BZY91-C12	DO-5	15	150	100		9500	1000			EXP		
BZY91-C12R	DO-5	15	150	100		9500	1000			EXP		
BZD27-C11	SOD87	15.7	9.6	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C11	SOD81	15.7	9.6	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C11 ●	SOD57	15.7	19.1	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C11 ●	SOD64	15.7	31.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C12	DO-4	16	20			700	1000					
BZY93-C12R	DO-4	16	20			700	1000					
BZD27-C12	SOD87	17	8.8	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C12	SOD81	17	8.8	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C12 ●	SOD57	17	17.7	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C12 ●	SOD64	17	29.4	6	25	1000	100	500	25	EXP	10	1000
BZY91-C13	DO-5	17	150	100		9500	1000			EXP		
BZY91-C13R	DO-5	17	150	100		9500	1000			EXP		
BZY93-C13	DO-4	17.5	20			700	1000					
BZY93-C13R	DO-4	17.5	20			700	1000					
BZD27-C13	SOD87	18.9	7.9	2.3	105	300	100	150	25	EXP	10	1000

Stabiliser diodes

Transient suppressor (cont.)

typenumber	outline	$V_{(CL)R}$ V	@ I_{RSM} A	P_{max} W	@ T_{tp} Cel	P_{ZSM} W	@ t_p us	P_{RSM} W	@ T_j Cel	@ shape	@ t_1 us	@ t_2 us
BZD23-C13	SOD81	18.9	7.9	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C13 €	SOD57	18.9	15.9	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C13 €	SOD64	18.9	26.4	6	25	1000	100	500	25	EXP	10	1000
BZY91-C15	DO-5	19	150	100		9500	1000			EXP		
BZY91-C15R	DO-5	19	150	100		9500	1000			EXP		
BZY93-C15	DO-4	19.5	20			700	1000					
BZY93-C15R	DO-4	19.5	20			700	1000					
BZD27-C15	SOD87	20.9	7.2	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C15	SOD81	20.9	7.2	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C15 €	SOD57	20.9	14.4	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C15 €	SOD64	20.9	23.9	6	25	1000	100	500	25	EXP	10	1000
BZY93-C16	DO-4	22	20			700	1000					
BZY93-C16R	DO-4	22	20			700	1000					
BZY91-C16	DO-5	22	150	100		9500	1000			EXP		
BZY91-C16R	DO-5	22	150	100		9500	1000			EXP		
BZD27-C16	SOD87	22.9	6.6	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C16	SOD81	22.9	6.6	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C16 €	SOD57	22.9	13.1	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C16 €	SOD64	22.9	21.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C18	DO-4	24	20			700	1000					
BZY93-C18R	DO-4	24	20			700	1000					
BZV37	SOD68	25	7			40	100					
BZD27-C18	SOD87	25.6	5.9	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C18	SOD81	25.6	5.9	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C18 €	SOD57	25.6	11.7	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C18 €	SOD64	25.6	19.5	6	25	1000	100	500	25	EXP	10	1000
BZY91-C18	DO-5	26	150	100		9500	1000			EXP		
BZY91-C18R	DO-5	26	150	100		9500	1000			EXP		
BZY93-C20	DO-4	27	10			700	1000					
BZY93-C20R	DO-4	27	10			700	1000					
BZW14	SOD64	28	50									
BZY91-C20	DO-5	28	100	100		9500	1000			EXP		
BZY91-C20R	DO-5	28	100	100		9500	1000			EXP		
BZD27-C20	SOD87	28.4	5.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C20	SOD81	28.4	5.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C20 €	SOD57	28.4	10.6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C20 €	SOD64	28.4	17.6	6	25	1000	100	500	25	EXP	10	1000
BZY93-C22	DO-4	30	10			700	1000					
BZY93-C22R	DO-4	30	10			700	1000					
BZD27-C22	SOD87	31	4.8	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C22	SOD81	31	4.8	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C22 €	SOD57	31	9.7	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C22 €	SOD64	31	16.1	6	25	1000	100	500	25	EXP	10	1000
BZY91-C22	DO-5	31	100	100		9500	1000			EXP		
BZY91-C22R	DO-5	31	100	100		9500	1000			EXP		
BZD27-C24	SOD87	33.8	4.4	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C24	SOD81	33.8	4.4	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C24 €	SOD57	33.8	8.9	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C24 €	SOD64	33.8	14.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C24	DO-4	34	10			700	1000					
BZY93-C24R	DO-4	34	10			700	1000					

Transient suppressor (cont.)

typenumber	outline	$V_{(CL)R}$ V	@ I_{RSM} A	P_{max} W	@ T_{tp} Cel	P_{ZSM} W	@ t_p us	P_{RSM} W	@ T_j Cel	@ shape	@ t_1 us	@ t_2 us
BZY91-C24	DO-5	34	100	100		9500	1000			EXP		
BZY91-C24R	DO-5	34	100	100		9500	1000			EXP		
BZY91-C27	DO-5	37	100	100		9500	1000			EXP		
BZY91-C27R	DO-5	37	100	100		9500	1000			EXP		
BZD27-C27	SOD87	38.1	3.9	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C27	SOD81	38.1	3.9	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C27 €	SOD57	38.1	7.9	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C27 €	SOD64	38.1	13.1	6	25	1000	100	500	25	EXP	10	1000
BZY93-C27	DO-4	39	10			700	1000					
BZY93-C27R	DO-4	39	10			700	1000					
BZY91-C30	DO-5	40	100	100		9500	1000			EXP		
BZY91-C30R	DO-5	40	100	100		9500	1000			EXP		
BZD27-C30	SOD87	42.2	3.6	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C30	SOD81	42.2	3.6	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C30 €	SOD57	42.2	7.7	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C30 €	SOD64	42.2	11.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C30	DO-4	44	10			700	1000					
BZY93-C30R	DO-4	44	10			700	1000					
BZY91-C33	DO-5	44	100	100		9500	1000			EXP		
BZY91-C33R	DO-5	44	100	100		9500	1000			EXP		
BZD27-C33	SOD87	46.2	3.2	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C33	SOD81	46.2	3.2	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C33 €	SOD57	46.2	6.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C33 €	SOD64	46.2	10.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C39	DO-4	47	5			700	1000					
BZY93-C39R	DO-4	47	5			700	1000					
BZY91-C36	DO-5	48	100	100		9500	1000			EXP		
BZY91-C36R	DO-5	48	100	100		9500	1000			EXP		
BZY93-C33	DO-4	50	10			700	1000					
BZY93-C33R	DO-4	50	10			700	1000					
BZD27-C36	SOD87	50.1	3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C36	SOD81	50.1	3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C36 €	SOD57	50.1	6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C36 €	SOD64	50.1	10	6	25	1000	100	500	25	EXP	10	1000
BZY93-C43	DO-4	52	5			700	1000					
BZY93-C43R	DO-4	52	5			700	1000					
BZY91-C39	DO-5	52	50	100		9500	1000			EXP		
BZY91-C39R	DO-5	52	50	100		9500	1000			EXP		
BZD27-C39	SOD87	54.1	2.8	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C39	SOD81	54.1	2.8	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C39 €	SOD57	54.1	5.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C39 €	SOD64	54.1	9.2	6	25	1000	100	500	25	EXP	10	1000
BZY93-C36	DO-4	56	10			700	1000					
BZY93-C36R	DO-4	56	10			700	1000					
BZY91-C43	DO-5	56	50	100		9500	1000			EXP		
BZY91-C43R	DO-5	56	50	100		9500	1000			EXP		
BZY93-C47	DO-4	59	5			700	1000					
BZY93-C47R	DO-4	59	5			700	1000					
BZD27-C43	SOD87	60.7	2.5	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C43	SOD81	60.7	2.5	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C43 €	SOD57	60.7	4.9	3.25	25	600	100	300	25	EXP	10	1000

Stabiliser diodes

Transient suppressor (cont.)

typenumber	outline	$V_{(CL)R}$	@ I_{RSM}	P_{max}	@ T_{tp}	P_{ZSM}	@ t_p	P_{RSM}	@ T_j	@ shape	@ t_1	@ t_2
		V	A	W	Cel	W	us	W	Cel		us	us
BZW03-C43 ∈	SOD64	60.7	8.2	6	25	1000	100	500	25	EXP	10	1000
BZY91-C47	DO-5	61	50	100		9500	1000			EXP		
BZY91-C47R	DO-5	61	50	100		9500	1000			EXP		
BZD27-C47	SOD87	65.5	2.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C47	SOD81	65.5	2.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C47 ∈	SOD57	65.5	4.6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C47 ∈	SOD64	65.5	7.6	6	25	1000	100	500	25	EXP	10	1000
BZY93-C51	DO-4	66	5			700	1000					
BZY93-C51R	DO-4	66	5			700	1000					
BZY91-C51	DO-5	66	50	100		9500	1000			EXP		
BZY91-C51R	DO-5	66	50	100		9500	1000			EXP		
BZD27-C51	SOD87	70.8	2.1	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C51	SOD81	70.8	2.1	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C51 ∈	SOD57	70.8	4.2	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C51 ∈	SOD64	70.8	7	6	25	1000	100	500	25	EXP	10	1000
BZY91-C56	DO-5	72	50	100		9500	1000			EXP		
BZY91-C56R	DO-5	72	50	100		9500	1000			EXP		
BZY93-C56	DO-4	75	5			700	1000					
BZY93-C56R	DO-4	75	5			700	1000					
BZD27-C56	SOD87	78.6	1.9	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C56	SOD81	78.6	1.9	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C56 ∈	SOD57	78.6	3.8	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C56 ∈	SOD64	78.6	6.3	6	25	1000	100	500	25	EXP	10	1000
BZY91-C62	DO-5	79	50	100		9500	1000			EXP		
BZY91-C62R	DO-5	79	50	100		9500	1000			EXP		
BZY93-C62	DO-4	85	5			700	1000					
BZY93-C62R	DO-4	85	5			700	1000					
BZD27-C62	SOD87	86.5	1.7	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C62	SOD81	86.5	1.7	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C62 ∈	SOD57	86.5	3.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C62 ∈	SOD64	86.5	5.8	6	25	1000	100	500	25	EXP	10	1000
BZY91-C68	DO-5	87	50	100		9500	1000			EXP		
BZY91-C68R	DO-5	87	50	100		9500	1000			EXP		
BZY93-C68	DO-4	94	5			700	1000					
BZY93-C68R	DO-4	94	5			700	1000					
BZD27-C68	SOD87	94.4	1.6	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C68	SOD81	94.4	1.6	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C68 ∈	SOD57	94.4	3.2	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C68 ∈	SOD64	94.4	5.3	6	25	1000	100	500	25	EXP	10	1000
BZY91-C75	DO-5	97	50	100		9500	1000			EXP		
BZY91-C75R	DO-5	97	50	100		9500	1000			EXP		
BZD27-C75	SOD87	103.5	1.5	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C75	SOD81	103.5	1.5	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C75 ∈	SOD57	103.5	2.9	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C75 ∈	SOD64	103.5	4.8	6	25	1000	100	500	25	EXP	10	1000
BZY93-C75	DO-4	105	5			700	1000					
BZY93-C75R	DO-4	105	5			700	1000					
BZD27-C82	SOD87	114	1.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C82	SOD81	114	1.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C82 ∈	SOD57	114	2.6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C82 ∈	SOD64	114	4.3	6	25	1000	100	500	25	EXP	10	1000

Transient suppressor (cont.)

typenumber	outline	$V_{(CL)R}$ V	@ I_{RSM} A	P_{max} W	@ T_{tp} Cel	P_{ZSM} W	@ t_p us	P_{RSM} W	@ T_j Cel	@ shape	@ t_1 us	@ t_2 us
BZD27-C91	SOD87	126	1.2	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C91	SOD81	126	1.2	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C91 €	SOD57	126	2.4	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C91 €	SOD64	126	3.9	6	25	1000	100	500	25	EXP	10	1000
BZD27-C100	SOD87	139	1.1	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C100	SOD81	139	1.1	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C100 €	SOD57	139	2.2	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C100 €	SOD64	139	3.6	6	25	1000	100	500	25	EXP	10	1000
BZD27-C110	SOD87	152	1	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C110	SOD81	152	1	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C110 €	SOD57	152	2	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C110 €	SOD64	152	3.3	6	25	1000	100	500	25	EXP	10	1000
BZD27-C120	SOD87	167	0.9	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C120	SOD81	167	0.9	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C120 €	SOD57	167	1.8	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C120 €	SOD64	167	3	6	25	1000	100	500	25	EXP	10	1000
BZD27-C130	SOD87	185	0.81	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C130	SOD81	185	0.81	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C130 €	SOD57	185	1.6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C130 €	SOD64	185	2.7	6	25	1000	100	500	25	EXP	10	1000
BZD27-C150	SOD87	204	0.73	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C150	SOD81	204	0.73	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C150 €	SOD57	204	1.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C150 €	SOD64	204	2.4	6	25	1000	100	500	25	EXP	10	1000
BZD27-C160	SOD87	224	0.67	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C160	SOD81	224	0.67	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C160 €	SOD57	224	1.3	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C160 €	SOD64	224	2.2	6	25	1000	100	500	25	EXP	10	1000
BZD27-C180	SOD87	249	0.6	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C180	SOD81	249	0.6	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C180 €	SOD57	249	1.2	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C180 €	SOD64	249	2	6	25	1000	100	500	25	EXP	10	1000
BZD27-C200	SOD87	276	0.54	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C200	SOD81	276	0.54	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C200 €	SOD57	276	1.1	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C200 €	SOD64	276	1.8	6	25	1000	100	500	25	EXP	10	1000
BZD27-C220	SOD87	305	0.5	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C220	SOD81	305	0.5	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C220 €	SOD57	305	1	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C220 €	SOD64	305	1.6	6	25	1000	100	500	25	EXP	10	1000
BZD27-C240	SOD87	336	0.45	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C240	SOD81	336	0.45	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C240 €	SOD57	336	0.9	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C240 €	SOD64	336	1.5	6	25	1000	100	500	25	EXP	10	1000
BZD27-C270	SOD87	380	0.4	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C270	SOD81	380	0.4	2.5	25	300	100	150	25	EXP	10	1000
BZT03-C270 €	SOD57	380	0.8	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C270 €	SOD64	380	1.3	6	25	1000	100	500	25	EXP	10	1000
BZD27-C300	SOD87	419	0.36	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C300	SOD81	419	0.36	2.5	25	300	100	150	25	EXP	10	1000

Stabiliser diodes

Translent suppressor (cont.)

typenumber	outline	$V_{(CL)R}$ V	@ I_{RSM} A	P_{max} W	@ T_{tp} Cel	P_{ZSM} W	@ t_p us	P_{RSM} W	@ T_j Cel	@ shape	@ t_1 us	@ t_2 us
BZT03-300	SOD57	419	0.72	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C300	SOD64	419	1.2	6	25							
BZD27-C330	SOD87	459	0.33	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C330	SOD81	459	0.33	2.5	25	300	100	150	25	EXP	10	1000
BZT03-330	SOD57	459	0.65	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C330	SOD64	459	1.1	6	25							
BZD27-C360	SOD87	498	0.3	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C360	SOD81	498	0.3	2.5	25	300	100	150	25	EXP	10	1000
BZT03-360	SOD57	498	0.6	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C360	SOD64	498	1	6	25							
BZD27-C390	SOD87	537	0.28	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C390	SOD81	537	0.28	2.5	25	300	100	150	25	EXP	10	1000
BZT03-390	SOD57	537	0.56	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C390	SOD64	537	0.93	6	25							
BZD27-C430	SOD87	603	0.25	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C430	SOD81	603	0.25	2.5	25	300	100	150	25	EXP	10	1000
BZT03-430	SOD57	603	0.5	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C430	SOD64	603	0.83	6	25							
BZD27-C470	SOD87	655	0.23	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C470	SOD81	655	0.23	2.5	25	300	100	150	25	EXP	10	1000
BZT03-470	SOD57	655	0.45	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C470	SOD64	655	0.76	6	25							
BZD27-C510	SOD87	707	0.21	2.3	105	300	100	150	25	EXP	10	1000
BZD23-C510	SOD81	707	0.21	2.5	25	300	100	150	25	EXP	10	1000
BZT03-510	SOD57	707	0.42	3.25	25	600	100	300	25	EXP	10	1000
BZW03-C510	SOD64	707	0.71	6	25							

typenumber	outline	CTR min	@ I_F mA	@ V_{CE} V	V_{IORM} kV	t_{on} us	t_{off} us	@ V_{CC} V	@ I_C mA	@ R_L Ohm	$V_{CEsat\text{-}max}$ V	@ I_F mA	@ I_C mA
MCT26 €	SOT90B	0.06	10	10	4.4						0.3	20	0.25
6N135	SOT97F	0.07	16		3.5								
CNW135	SOT271	0.07	16		7.07								
H11A4 €	SOT90B	0.1	10	10	2.82						0.4	10	0.5
4N27 €	SOT90B	0.1	10	10	2.82	5	30	5		2000	0.5	50	2
4N28 €	SOT90B	0.1	10	10	2.82	5	30	5		2000	0.5	50	2
SL5501	SOT90B	0.15	2	5	3.5	20	50	5		1000	0.4	20	2
SL5504	SOT90B	0.15	2	5	3.5	50	150	5		1000	0.4	20	2
6N136	SOT97F	0.19	16		4.4								
CNW136	SOT271	0.19	16		7.07								
CNW4502	SOT271	0.19	16		7.07								
H11A2 €	SOT90B	0.2	10	10	2.82						0.4	10	0.5
H11A3 €	SOT90B	0.2	10	10	2.82						0.4	10	0.5
4N25 €	SOT90B	0.2	10	10	2.82	5	30	5		2000	0.5	50	2
4N25A €	SOT90B	0.2	10	10	2.82	5	30	5		2000	0.5	50	2
4N26 €	SOT90B	0.2	10	10	2.82	5	30	5		2000	0.5	50	2
4N38 €	SOT90B	0.2	10	10	2.82	5	5	10	2	100	1	20	4
4N38A €	SOT90B	0.2	10	10	2.82	5	5	10	2	100	1	20	4
SL5505S	SOT97F	0.2	10		3.5								
MCT2 €	SOT90B	0.2	10	10	4.4	5	30	5		2000	0.4	16	2
CNW11AV-3	SOT228	0.2	10	10	5.656	3	2.5	10	2	100	0.4	20	2
CNX21	SOT211	0.2	10	0.4	10	3	3	5	2	100		10	2
SL5511	SOT90B	0.25	2	5	3.5	20	50	5		1000	0.4	20	2
H11A5 €	SOT90B	0.3	10	10	2.82						0.4	10	0.5
SL5500	SOT90B	0.4	2	5	3.5	20	50	5		1000	0.4	50	10
CNG35	SOT90B	0.4	10	0.4	4.4	3	3	5	2	100	0.4	10	2
CNX35U €	SOT90B	0.4	10	0.4	4.4	3	3	5	2	100	0.4	10	2
CNY17-1 €	SOT90B	0.4	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNY17F-1	SOT90B	0.4	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNG82	SOT212	0.4	10	0.4	5.3	3	3	5	2	100	0.4	10	4
CNG83	SOT212	0.4	10	0.4	5.3	3	3	5	2	100	0.4	10	4
CNX62A €	SOT230	0.4	10	0.4	5.3	3	3	5	2	100	0.4	10	4
CNX71A €	SOT229B	0.4	10	0.4	5.3	20	20	10	2	100	0.4	10	4
CNX72A €	SOT229B	0.4	10	0.4	5.3						0.4	10	4
CNX82A €	SOT231	0.4	10	0.4	5.3	3	3	5	2	100	0.4	10	4
CNX83A €	SOT231	0.4	10	0.4	5.3	3	3	5	2	100	0.4	10	4
CNY17G-1 €	SOT231	0.4	10	5	5.3	5	5	10	2	100	0.3	10	2.5.
CNY17GF-1 €	SOT231	0.4	10	5	5.3	5	5	10	2	100	0.3	10	2.5
SL5582 €	SOT231	0.4	10	5	5.3	12	12	5	2	1000	0.4	10	4
SL5583 €	SOT231	0.4	10	5	5.3	12	12	5	2	1000	0.4	10	4
CNW82 €	SOT228	0.4	10	0.4	8.34	3	3	5	2	100	0.4	10	4
CNW83 €	SOT228	0.4	10	0.4	8.34	3	3	5	2	100	0.4	10	4
SL5582W €	SOT228	0.4	10	5	8.34	12	12	5	2	1000	0.4	10	4
SL5583W €	SOT228	0.4	10	5	8.34	12	12	5	2	1000	0.4	10	4
H11A1 €	SOT90B	0.5	10	10	2.82						0.4	10	0.5
4N31	SOT90B	0.5	10	10	4.4	0.7	25	10	50	180	1.2	8	2
CNW11AV-2	SOT228	0.5	10	10	5.656	3	2.5	10	2	100	0.4	20	2
CNX39U €	SOT90B	0.6	10	0.4	4.4	5.5	4	5	2	100	0.4	10	2
CNW84	SOT228	0.6	10	10	8.3	3	2.5	5	2	100			
CNW85	SOT228	0.6	10	5	8.34	3	2.5	5	2	100			
CNY17-2 €	SOT90B	0.63	10	5	4.4	5	5	10	2	100	0.3	10	2.5

Optocouplers

Optocouplers (cont.)

typenumber	outline	CTR min	@ I_F	@ V_{CE}	V_{IORM}	t_{on}	t_{off}	@ V_{CC}	@ I_C	@ R_L	$V_{CEsat-max}$	@ I_F	@ I_C
			mA	V	kV	us	us	V	mA	Ohm	V	mA	mA
CNY17F-2	SOT90B	0.63	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNY17G-2 €	SOT231	0.63	10	5	5.3	5	5	10	2	100	0.3	10	2.5
CNY17GF-2 €	SOT231	0.63	10	5	5.3	5	5	10	2	100	0.3	10	2.5
CNX38U €	SOT90B	0.7	10	10	4.4	5	5	5	4	100	0.4	16	2
CNG36	SOT90B	0.8	10	0.4	4.4	8	6	5	2	100	0.4	10	4
CNX36U €	SOT90B	0.8	10	0.4	4.4	8	6	5	2	100	0.4	10	4
H11B255	SOT90B	1	10	5	2.82	125	100	10	10	100	1	50	50
H11B3	SOT90B	1	1	5	2.82	125	100	10	10	100	1	1	1
4N36 €	SOT90B	1	10	10	2.82	7	5	10	2	100	0.3	10	0.5
4N37 €	SOT90B	1	10	10	2.82	7	5	10	2	100	0.3	10	0.5
CNY17-3 €	SOT90B	1	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNY17F-3	SOT90B	1	2	5	4.4	5	5	10	2	100	0.3	10	2.5
MCA230	SOT90B	1	10	5	4.4	5	100	5		100	1	50	50
MCA255	SOT90B	1	10	5	4.4	5	100	5		100	1	50	50
OF4114	SOT90B	1	10	5	4.4						0.3	10	2.5
PO40/44A	SOT90B	1	10	0.5	4.4	7	7	5	2	100	0.3	10	2.5
4N29	SOT90B	1	10	10	4.4	0.7	25	10	50	180	1	8	2
4N30	SOT90B	1	10	10	4.4	0.7	25	10	50	180	1	8	2
4N35 €	SOT90B	1	10	10	4.4	7	5	10	2	100	0.3	10	0.5
CNY17G-3 €	SOT231	1	10	5	5.3	5	5	10	2	100	0.3	10	2.5
CNY17GF-3 €	SOT231	1	10	5	5.3	5	5	10	2	100	0.3	10	2.5
CNW11AV-1	SOT228	1	10	10	5.656	3	2.5	10	2	100	0.4	20	2
CNY17-4 €	SOT90B	1.6	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNY17F-4	SOT90B	1.6	10	5	4.4	5	5	10	2	100	0.3	10	2.5
CNY17G-4 €	SOT231	1.6	10	5	5.3	5	5	10	2	100	0.3	10	2.5
CNY17GF-4 €	SOT231	1.6	10	5	5.3	5	5	10	2	100	0.3	10	2.5
H11B2	SOT90B	2	1	5	2.82	125	100	10	10	100	1	1	1
MCA231	SOT90B	2	10	5	4.4	5	100	5		100	1	1	2
6N138	SOT97F	3	1.6		3.5								
CNW138	SOT271	3	1.6		7.07								
H11B1	SOT90B	5	1	5	2.82	125	100	10	10	100	1	1	1
6N139	SOT97F	5	1.6		3.5								
4N32	SOT90B	5	10	10	4.4	0.7	35	10	50	180	1	8	2
4N33	SOT90B	5	10	10	4.4	0.7	35	10	50	180	1	8	2
CNW139	SOT271	5	1.6		7.07								
CNX48U	SOT90B	6	1	1	4.4	5	30	5		100	1	5	10

typenumber	outline	V_{DRM} V	$I_{T(RMS)-max}$ A	$dI_{T/dt-max}$ A/us	I_{TSM} A	I_{TRM} A	@ dt ms	$dV_{D/dt-max}$ V/us	V_{GT-min} V
BT134W-500	SOT223	500	1	10	10	10	20	100	1.5
BT134-500	SOT82	500	4	10	25	25	20	100	1.5
BT136-500	TO-220AB	500	4	10	25	25	20	100	1.5
BT136-500D	TO-220AB	500	4	10	25	25	20		1.5
BT136-500E	TO-220AB	500	4	10	25	25	20		1.5
BT136-500F	TO-220AB	500	4	10	25	25	20	50	1.5
BT136-500G	TO-220AB	500	4	10	25	25	20	200	1.5
BT136F-500	SOT186	500	4	10	25	25	20	100	1.5
BT136F-500D	SOT186	500	4	10	25	25	20		1.5
BT136F-500E	SOT186	500	4	10	25	25	20		1.5
BT136F-500F	SOT186	500	4	10	25	25	20	50	1.5
BT136F-500G	SOT186	500	4	10	25	25	20	200	1.5
BT137-500	TO-220AB	500	8	20	55	55	20	100	1.5
BT137-500D	TO-220AB	500	8	20	55	55	20		1.5
BT137-500E	TO-220AB	500	8	20	55	55	20		1.5
BT137-500F	TO-220AB	500	8	20	55	55	20	50	1.5
BT137-500G	TO-220AB	500	8	20	55	55	20	200	1.5
BT137F-500	SOT186	500	8	20	55	55	20	100	1.5
BT137F-500D	SOT186	500	8	20	55	55	20		1.5
BT137F-500E	SOT186	500	8	20	55	55	20		1.5
BT137F-500F	SOT186	500	8	20	55	55	20	50	1.5
BT137F-500G	SOT186	500	8	20	55	55	20	200	1.5
BT138-500	TO-220AB	500	12	30	90	90	20	100	1.5
BT138-500E	TO-220AB	500	12	30	90	90	20	50	1.5
BT138-500F	TO-220AB	500	12	30	90	90	20	50	1.5
BT138-500G	TO-220AB	500	12	30	90	90	20	200	1.5
BT138F-500	SOT186	500	12	30	90	90	20	100	1.5
BT138F-500E	SOT186	500	12	30	90	90	20	50	1.5
BT138F-500F	SOT186	500	12	30	90	90	20	50	1.5
BT138F-500G	SOT186	500	12	30	90	90	20	200	1.5
BT139-500	TO-220AB	500	16	30	140	140	20	100	1.5
BT139-500E	TO-220AB	500	16	30	140	140	20	50	1.5
BT139-500F	TO-220AB	500	16	30	140	140	20	50	1.5
BT139-500G	TO-220AB	500	16	30	140	140	20	200	1.5
BT139-500H	TO-220AB	500	16	30	140	140	20		0.25
BT139F-500	SOT186	500	16	30	140	140	20	100	1.5
BT139F-500E	SOT186	500	16	30	140	140	20	50	1.5
BT139F-500F	SOT186	500	16	30	140	140	20	50	1.5
BT139F-500G	SOT186	500	16	30	140	140	20	200	1.5
BTA140-500	TO-220AB	500	25	30	180	180	20	100	1.5
BT134W-600	SOT223	600	1	10	10	10	20	100	1.5
BT134-600	SOT82	600	4	10	25	25	20	100	1.5
BT136-600	TO-220AB	600	4	10	25	25	20	100	1.5
BT136-600D	TO-220AB	600	4	10	25	25	20		1.5
BT136-600E	TO-220AB	600	4	10	25	25	20		1.5
BT136-600F	TO-220AB	600	4	10	25	25	20	50	1.5
BT136-600G	TO-220AB	600	4	10	25	25	20	200	1.5
BT136F-600	SOT186	600	4	10	25	25	20	100	1.5
BT136F-600D	SOT186	600	4	10	25	25	20		1.5
BT136F-600E	SOT186	600	4	10	25	25	20		1.5
BT136F-600F	SOT186	600	4	10	25	25	20	50	1.5

Trigger devices

Triacs (cont.)

typenumber	outline	V_{DRM} V	$I_{T(RMS)-max}$ A	dI_{T}/dt_{-max} A/us	I_{TSM} A	I_{TRM} A	@ dt ms	dV_{D}/dt_{-max} V/us	V_{GT-min} V
BT136F-600G	SOT186	600	4	10	25	25	20	200	1.5
BT137-600	TO-220AB	600	8	20	55	55	20	100	1.5
BT137-600E	TO-220AB	600	8	20	55	55	20		1.5
BT137-600F	TO-220AB	600	8	20	55	55	20	50	1.5
BT137-600G	TO-220AB	600	8	20	55	55	20	200	1.5
BT137F-600	SOT186	600	8	20	55	55	20	100	1.5
BT137F-600E	SOT186	600	8	20	55	55	20		1.5
BT137F-600F	SOT186	600	8	20	55	55	20	50	1.5
BT137F-600G	SOT186	600	8	20	55	55	20	200	1.5
BT138-600	TO-220AB	600	12	30	90	90	20	100	1.5
BT138-600E	TO-220AB	600	12	30	90	90	20	50	1.5
BT138-600F	TO-220AB	600	12	30	90	90	20	50	1.5
BT138-600G	TO-220AB	600	12	30	90	90	20	200	1.5
BT138F-600	SOT186	600	12	30	90	90	20	100	1.5
BT138F-600E	SOT186	600	12	30	90	90	20	50	1.5
BT138F-600F	SOT186	600	12	30	90	90	20	50	1.5
BT138F-600G	SOT186	600	12	30	90	90	20	200	1.5
BTW43-600G	TO-64	600	15	50	120	50	20	200	2.5
BTW43-600H	TO-64	600	15	50	120	50	20	200	2.5
BT139-600	TO-220AB	600	16	30	140	140	20	100	1.5
BT139-600E	TO-220AB	600	16	30	140	140	20	50	1.5
BT139-600F	TO-220AB	600	16	30	140	140	20	50	1.5
BT139-600G	TO-220AB	600	16	30	140	140	20	200	1.5
BT139-600H	TO-220AB	600	16	30	140	140	20		0.25
BT139F-600	SOT186	600	16	30	140	140	20	100	1.5
BT139F-600E	SOT186	600	16	30	140	140	20	50	1.5
BT139F-600F	SOT186	600	16	30	140	140	20	50	1.5
BT139F-600G	SOT186	600	16	30	140	140	20	200	1.5
BTA140-600	TO-220AB	600	25	30	180	180	20	100	1.5
BT139-700H	TO-220AB	700	16	30	140	140	20		0.25
BT134W-800	SOT223	800	1	10	10	10	20	100	1.5
BT134-800	SOT82	800	4	10	25	25	20	100	1.5
BT136-800	TO-220AB	800	4	10	25	25	20	100	1.5
BT136-800E	TO-220AB	800	4	10	25	25	20		1.5
BT136-800F	TO-220AB	800	4	10	25	25	20	50	1.5
BT136-800G	TO-220AB	800	4	10	25	25	20	200	1.5
BT136F-800	SOT186	800	4	10	25	25	20	100	1.5
BT136F-800E	SOT186	800	4	10	25	25	20		1.5
BT136F-800F	SOT186	800	4	10	25	25	20	50	1.5
BT136F-800G	SOT186	800	4	10	25	25	20	200	1.5
BT137-800	TO-220AB	800	8	20	55	55	20	100	1.5
BT137-800E	TO-220AB	800	8	20	55	55	20		1.5
BT137-800F	TO-220AB	800	8	20	55	55	20	50	1.5
BT137-800G	TO-220AB	800	8	20	55	55	20	200	1.5
BT137F-800	SOT186	800	8	20	55	55	20	100	1.5
BT137F-800E	SOT186	800	8	20	55	55	20		1.5
BT137F-800F	SOT186	800	8	20	55	55	20	50	1.5
BT137F-800G	SOT186	800	8	20	55	55	20	200	1.5
BT138-800	TO-220AB	800	12	30	90	90	20	100	1.5
BT138-800E	TO-220AB	800	12	30	90	90	20	50	1.5
BT138-800F	TO-220AB	800	12	30	90	90	20	50	1.5

Triacs (cont.)

typenumber	outline	V_{DRM} V	$I_{T(RMS)-max}$ A	$dI_{T/dt-max}$ A/us	I_{TSM} A	I_{TRM} A	@ dt ms	$dV_{D/dt-max}$ V/us	V_{GT-min} V
BT138-800G	TO-220AB	800	12	30	90	90	20	200	1.5
BT138F-800	SOT186	800	12	30	90	90	20	100	1.5
BT138F-800E	SOT186	800	12	30	90	90	20	50	1.5
BT138F-800F	SOT186	800	12	30	90	90	20	50	1.5
BT138F-800G	SOT186	800	12	30	90	90	20	200	1.5
BTW43-800G	TO-64	800	15	50	120	50	20	200	2.5
BTW43-800H	TO-64	800	15	50	120	50	20	200	2.5
BT139-800	TO-220AB	800	16	30	140	140	20	100	1.5
BT139-800E	TO-220AB	800	16	30	140	140	20	50	1.5
BT139-800F	TO-220AB	800	16	30	140	140	20	50	1.5
BT139-800G	TO-220AB	800	16	30	140	140	20	200	1.5
BT139-800H	TO-220AB	800	16	30	140	140	20		0.25
BT139F-800	SOT186	800	16	30	140	140	20	100	1.5
BT139F-800E	SOT186	800	16	30	140	140	20	50	1.5
BT139F-800F	SOT186	800	16	30	140	140	20	50	1.5
BT139F-800G	SOT186	800	16	30	140	140	20	200	1.5
BTA140-800	TO-220AB	800	25	30	180	180	20	100	1.5
BTW43-1000G	TO-64	1000	15	50	120	50	20	200	2.5
BTW43-1000H	TO-64	1000	15	50	120	50	20	200	2.5

Trigger devices

Fast turn-off

typenumber	outline	V_{DRM} V	$I_{T(AV)\text{-max}}$ A	I_{TSM} A	@ dt ms	$I_{T(RMS)\text{-max}}$ A	I_{TRM} A	$I_{GT\text{-min}}$ mA	$V_{GT\text{-min}}$ V	$V_{D\text{-max}}$ V
BT153-500	TO-220AB	500	4	40	10	6	30	40	2.5	
BT155-600RK	TO-220AB	600	9.5	110	10	15	90	100	2	
BT155-600RN	TO-220AB	600	9.5	110	10	15	90	100	2	
BT155-600RP	TO-220AB	600	9.5	110	10	15	90	100	2	
BTW63-600RK	TO-48	600	25	370	10	40	250	250	2	500
BTW63-600RN	TO-48	600	25	370	10	40	250	250	2	500
BTW63-600RP	TO-48	600	25	370	10	40	250	250	2	500
BT155-800RK	TO-220AB	800	9.5	110	10	15	90	100	2	
BT155-800RN	TO-220AB	800	9.5	110	10	15	90	100	2	
BT155-800RP	TO-220AB	800	9.5	110	10	15	90	100	2	
BTW63-800RK	TO-48	800	25	370	10	40	250	250	2	650
BTW63-800RN	TO-48	800	25	370	10	40	250	250	2	650
BTW63-800RP	TO-48	800	25	370	10	40	250	250	2	650
BTW63-1000RK	TO-48	1000	25	370	10	40	250	250	2	700
BTW63-1000RN	TO-48	1000	25	370	10	40	250	250	2	700
BTW63-1000RP	TO-48	1000	25	370	10	40	250	250	2	700

typenumber	outline	V_{RRM} V	$I_{T(AV)-max}$ A	I_{TSM} A	@ dt ms	$I_{T(RMS)-max}$ A	I_{GT-min} mA	V_{GT-min} V	$dI_{T/dt-max}$ A/us
BRY39	TO-72	70	0.25	3	0.01				20
BT148W-400R	SOT223	400	0.6	10	10	1	0.2	2.3	50
BT148-400R	SOT82	400	2.5	25	10	4	0.2	1.5	50
BTY79-400R €	TO-64	400	10	150	10	16	30	1.5	50
BT152-400R €	TO-220AB	400	13	200	10	20	32	1.5	200
BTY91-400R	TO-48	400	14	200	10	25	40	3	20
BTW45-400R €	TO-48	400	16	300	10	25	75	1.5	100
BTW45-400RU	TO-48	400	16	300	10	25	75	1.5	100
BTW40-400R	TO-48	400	20	400	10	32	75	1.5	100
BTW40-400RU	TO-48	400	20	400	10	32	75	1.5	100
BT148W-500R	SOT223	500	0.6	10	10	1	0.2	2.3	50
BT148-500R	SOT82	500	2.5	25	10	4	0.2	1.5	50
BT150	TO-220AB	500	2.5	25	10	4	200	1.5	50
BT151-500R €	TO-220AB	500	7.5	100	10	12	15	1.5	50
BTY79-500R €	TO-64	500	10	150	10	16	30	1.5	50
BTY91-500R	TO-48	500	14	200	10	25	40	3	20
BT145-500R	TO-220AB	500	16	300	10	25	35	1.5	200
BT148W-600R	SOT223	600	0.6	10	10	1	0.2	2.3	50
BT148-600R	SOT82	600	2.5	25	10	4	0.2	1.5	50
BTW38-600R €	TO-64	600	10	150	10	16	50	1.5	50
BTW42-600R €	TO-64	600	10	150	10	16	50	1.5	50
BTY79-600R €	TO-64	600	10	150	10	16	30	1.5	50
BT152-600R €	TO-220AB	600	13	200	10	20	32	1.5	200
BTY91-600R	TO-48	600	14	200	10	25	40	3	20
BTW45-600R €	TO-48	600	16	300	10	25	75	1.5	100
BTW45-600RU €	TO-48	600	16	300	10	25	75	1.5	100
BT145-600R	TO-220AB	600	16	300	10	25	35	1.5	200
BTW40-600R	TO-48	600	20	400	10	32	75	1.5	100
BTW40-600RU	TO-48	600	20	400	10	32	75	1.5	100
BT151-650R €	TO-220AB	650	7.5	100	10	12	15	1.5	50
BT151-800R	TO-220AB	800	7.5	100	10	12	15	1.5	50
BTW38-800R €	TO-64	800	10	150	10	16	50	1.5	50
BTW42-800R €	TO-64	800	10	150	10	16	50	1.5	50
BTY79-800R €	TO-64	800	10	150	10	16	30	1.5	50
BT152-800R €	TO-220AB	800	13	200	10	20	32	1.5	200
BTY91-800R	TO-48	800	14	200	10	25	40	3	20
BTW45-800R €	TO-48	800	16	300	10	25	75	1.5	100
BTW45-800RU €	TO-48	800	16	300	10	25	75	1.5	100
BT145-800R	TO-220AB	800	16	300	10	25	35	1.5	200
BTW40-800R	TO-48	800	20	400	10	32	75	1.5	100
BTW40-800RU	TO-48	800	20	400	10	32	75	1.5	100
BTW38-1000R €	TO-64	1000	10	150	10	16	50	1.5	50
BTW42-1000R €	TO-64	1000	10	150	10	16	50	1.5	50
BTY79-1000R €	TO-64	1000	10	150	10	16	30	1.5	50
BTW45-1000R €	TO-48	1000	16	300	10	25	75	1.5	100
BTW45-1000RU	TO-48	1000	16	300	10	25	75	1.5	100
BTW45-1200R €	TO-48	1200	16	300	10	25	75	1.5	100
BTW45-1200RU €	TO-48	1200	16	300	10	25	75	1.5	100

Hybrid amplifiers

CATV amplifiers

V_{supply} nom = 24 V

typenumber	outline	f_{upper} MHz	G_p min dB	@ f MHz	SL max dB	V_o min dBmV	f_{lower} MHz	FL max dB	d_2 max dB	X_{mod} max dB	CTB max dB	F max dB
BGY61	SOT115C	200	12.5	10	0.5	64	5	0.2	-72	-61	-68	7
BGY65	SOT115C	200	18	10	0.5	64	5	0.2	-72	-61	-68	5.5
BGY67	SOT115C	200	21.5	10	0.5	64	5	0.2	-67	-60	-67	5.5
BGY67A	SOT115C	200	23.5	10	0.5	64	5	0.2	-67	-59	-67	5.5
BGY60	SOT115D	300	32.5	50	1.5	64	40	0.3	-66			6
BGY80 ∈	SOT115C	450	12	50	1.5	61.5	40	0.2	-72	-59	-54	7.5
BGY81 ∈	SOT115C	450	12	50	1.5	64	40	0.2	-74	-62	-58	8
BGY82	SOT115C	450	13.5	50	1.5	61.5	40	0.2	-72	-56	-55	7
BGY83	SOT115C	450	13.5	50	1.5	64	40	0.2	-74	-59	-59	8
BGY85H/01 ∈	SOT115C	450	14.8	50		65	40	0.2	-72	-65	-65	6.8
BGY84 ∈	SOT115C	450	16.5	50	1.5	60	40	0.2	-70	-57	-55	6.5
BGY85 ∈	SOT115C	450	16.5	50	1.5	62.5	40	0.2	-70	-60	-58	7
BGE85A	SOT115C	450	17.4	50	1.5	60.5	40	0.2	-72			7
BGY84A	SOT115C	450	18	50	1.5	60	40	0.2	-72	-58	-55	6.5
BGY85A ∈	SOT115C	450	18	50	1.5	62.5	40	0.2	-72	-61	-59	7
BGD102	SOT115C	450	18	50	2.5	65	40	0.3	-73	-67	-65	7
BGD104	SOT115C	450	19.5	50	2.5	64.5	40	0.3	-73	-66	-64	7
BGY86	SOT115C	450	21.5	50	1.5	61.5	40	0.2	-68	-51	-54	6
BGY87	SOT115C	450	21.5	50	1.5	64	40	0.2	-72	-55	-58	6.5
BGD106	SOT115C	450	21.5	50	2	66.5	40	0.3	-68	-63	-63	6.5
BGY87B	SOT115C	450	26.2	50	2.5	64	40	0.2	-70	-58	-58	6
BGE88	SOT115C	450	33	50	2.5	60	40	0.3	-70			6
BGE88/01	SOT115C	450	33	50	2.5	59	40	0.3	-70			6
BGY88 ∈	SOT115C	450	33.5	50	2.5	62	40	0.3	-70	-59	-58	6
BGD108	SOT115C	450	35	50	2.2	67	40	0.4	-73	-65	-64	7
BGY89	SOT115C	450	37	50	2.5	63	40	0.4	-70	-58	-58	5.5
BGY580	SOT115C	550	12	50	2	59	40	0.2	-70	-59	-52	8.5
BGY581	SOT115C	550	12	50	2	61.5	40	0.2	-72	-62	-56	9
BGY582	SOT115C	550	13.5	50	1.5	61.5	40	0.2	-70	-58	-55	7.5
BGY583	SOT115C	550	13.5	50	1.5	64	40	0.2	-72	-61	-59	8.5
BGY584	SOT115C	550	16.5	50	2	58.5	40	0.2	-68	-59	-56	7
BGY585	SOT115C	550	16.5	50	2	61	40	0.2	-70	-62	-59	8
BGY584A	SOT115C	550	17.7	50	2	59	40	0.2	-70	-59	-56	7
BGY585A	SOT115C	550	17.7	50	2	61.5	40	0.2	-72	-62	-59	8
BGD502 ∈	SOT115C	550	18	50	2.2	64	40	0.3	-72	-68	-65	8
BGD504	SOT115C	550	19.5	50	2.2	63.5	40	0.3	-70	-67	-64	8
BGY586	SOT115C	550	21.5	50	1.5	58.5	40	0.2	-62	-55	-53	6.5
BGY587	SOT115C	550	21.5	50	1.5	61	40	0.2	-66	-59	-57	7
BGD506	SOT115C	550	21.5	50	2	62.5	40	0.3	-66	-63	-62	7
BGY587B	SOT115C	550	26.2	50	2.5	61	40	0.4	-68	-62	-57	6.5
BGY588	SOT115C	550	33.5	50	2.5	61	40	0.4	-68	-59	-57	6.5
BGD508	SOT115C	550	35	50	2.2	63	40	0.4	-70	-65	-62	7.5
BGD601	SOT115C	600	12	50	2.2	63	40	0.3	-70	-66	-62	9.5
BGY681	SOT115C	600	12	50	2.2	59.5	40	0.2	-70	-58	-52	9.5
BGY683	SOT115C	600	13.5	50	1.7	58	40	0.2	-68	-59	-55	9
BGY685	SOT115C	600	16.5	50	2.2	60	40	0.2	-68	-60	-55	8.5
BGY685A	SOT115C	600	17.7	50	2.2	60	40	0.2	-70	-60	-55	8.5
BGY685AL	SOT115C	600	18	50	2	60	40	0.3	-70	-55	-57	5
BGD602	SOT115C	600	18	50	2.2	63	40	0.3	-70	-66	-62	8
BGY687	SOT115C	600	21	50	2.2	58	40	0.2	-66	-54	-54	6.5

CATV amplifiers (cont.)

Hybrid amplifiers

typenumber	outline	f_{upper} MHz	G_p min dB	@ f MHz	SL max dB	V_o min dBmV	f_{lower} MHz	FL max dB	d_2 max dB	X_{mod} max dB	CTB max dB	F max dB
BGY687B	SOT115C	600	26.2	50	2.8	60	40	0.4	-66	-58	-53	7
BGD702	SOT115C	750	18	50	1.5	61	40	0.5	-68	-62	-58	9
BGY785A	SOT115C	750	18	50	1.5	59	40	0.5	-65	-57	-53	9
BGY787	SOT115C	750	21	50	1.5	59	40	0.5	-63	-55	-51	8
BGX881	SOT115D	860	12	50	1.4	59.5	40	0.3	-53			9
BGE885	SOT115D	860	16.5	50	1.2		40	0.5	-53			8
BGX885N	SOT115D	860	16.5	50	1.4	60	40	0.3	-53			8
BGD885	SOT115D	860	16.5	50	1.6	63	40	0.5	-53			8
BGY885A	SOT115C	860	18	50			40					
BGE887	SOT115H	860	22.5	470	1	60.5	470	0.3				8.5

Hybrid amplifiers

MATV wideband

Z_S = 75 ohm
Z_L = 75 ohm

typenumber	G_p typ dB	F typ dB	$V_{o(rms)}$ typ dBuV	V_{supply} nom V	FL typ dB	I_{tot} typ mA	f_{lower} MHz	f_{upper} MHz	VSWR-in-max
OM2046	10	10	116	12	1	82	40	860	1.5
OM2045	12	3.6	99	12	1	11.5	40	860	2
OM345	12	5.5	99	12	1	11.5	40	860	2
OM322	15	7	105	24	0.3	60	40	860	1.7
OM323	15	9	114	24	0.5	100	40	860	1.9
OM323A	15	9	114	24	0.5	100	40	860	1.9
OM320	15.5	5.5	94	24	1	23	40	860	2.2
OM321	15.5	6	100	24	1	33	40	860	2.5
OM2050	18	5.2	100	12	1	18	40	860	1.5
OM350	18	6	100	12	1	18	40	860	1.5
OM926	18	6.5	103	12		28	10	2000	
OM336	22	7	107	24	1	65	40	860	1.4
OM2060	23	5.4	107	12	0.5	56	40	860	1.3
OM360	23	7	107	12	0.5	56	40	860	1.3
OM337	26	9.8	114	24	1	115	40	860	2.3
OM337A	26	9.8	114	24	1	115	40	860	2.3
OM335	27	5.5	101	24	1.6	35	40	860	1.9
OM2061	28	4.4	107	12	1	50	40	860	1.5
OM2064	28	4.4	107	12	1	51	40	860	1.5
OM2052	28	4.5	107	12	1	42	40	860	2.2
OM2070	28	4.8	112	12	1	100	40	860	2.3
OM361	28	6	107	12	1	51	40	860	1.5
OM339	28	6	107	24	1.5	67	40	860	1.5
OM370	28	7	113	12	1	100	40	860	2.3
OM2063	29	3.6	103	12	1	52	40	860	2.3
OM2070B	30	4.8	113	12	1	100	40	860	2.7

Philips Semiconductors – a worldwide company

Argentina IEROD, St. Juramento 1991 - 14 B, Buenos Aires.
Zip Code 1428, Phone/Fax: 541 7869367

Australia 34 Waterloo Road, NORTH RYDE, NSW 2113,
Tel. (02) 439 3322, Fax. (02) 805 4466

Austria Triester Str. 64, 1101 WIEN,
Tel. (0222) 60 101-0, Fax. (0222) 60 101-1975

Belgium 80 Rue Des Deux Gares, B-1070 BRUXELLES,
Tel. (02) 52 56 111, Fax. (02) 52 57 246

Brazil Rua do Rocia 220, SAO PAULO-SP, CEP 4552,
P.O. Box 7383, CEP 01051, Tel. (011) 829-1166,
Fax. (011) 829-1849

Canada DISCRETE SEMICONDUCTORS, 601 Milner Ave,
SCARBOROUGH, ONTARIO, M1B 1M8,
Tel. (416) 292-5161
INTEGRATED CIRCUITS, 1 Eva Road, Suite 411, ETOBICOKE,
Ontario, M9C 4Z5, Tel. (416) 626-6676

Chile Av. Santa Maria 0760, SANTIAGO,
Tel. (02) 773816

Colombia Carrera 21 No. 56-17, BOGOTA, D.E., P.O. Box 77621,
Tel. (01) 249 76 24

Denmark Prags Boulevard 80, PB 1919, DK-2300 COPENHAGEN S,
Tel. 32-88 33 33, Fax. 32-96 0125

Finland Sinikalliontie 3, SF-2630 ESPOO,
Tel. 358-0-50 261, Fax. 358-0-520 039

France 117 Quai du Président Roosevelt, 92134 ISSY-LES-MOULINEAUX Cedex, Tel. (01) 40 93 80 00,
Fax. (01) 40 93 81 27

Germany Burchardstrasse 19, D-2 HAMBURG 1,
Tel. (040) 3296-0, Fax. (040) 3296 213

Greece No. 15, 25th March Street, GR 17778 TAVROS,
Tel. (01) 48 94 339/48 94 911

Hong Kong 15/F Philips Ind. Bldg., 24-28 Kun Yip St., KWAI CHUNG,
Tel. (0)-42 45 121, Fax. (0) 480 69 60

India Shivsagar Estate 'A' Block, P.O. Box 6598, 254-D Dr. Annie
Besant Rd., BOMBAY-40018, Tel. (022) 49 21 500-49 21 515,
Fax. (022) 494 190 63

Indonesia Setiabudi 11 Building, 6th Fl., Jalan H.R. Rasuna Said,
P.O. Box 223/KBY, Kuningan, JAKARTA 12910,
Tel. (021) 51 79 95

Ireland Newstead, Clonskeagh, DUBLIN 14,
Tel. (01) 69 33 55, Fax. (01) 69 78 56

Italy Piazza IV Novembre 3, 1-20124 MILANO,
Tel. (02) 6752 2642, Fax. (02) 6752 2642

Japan Philips Bldg 13-37, Kohnan 2-chome, Minato-ku, TOKYO 108,
Tel. (03) 813-3740-5101, Fax. (03) 813 3740 0570

Korea (Republic of) Philips House, 260-199 Itaewon dong,
Yongsan-ku, SEOUL, Tel. (02) 794-5011, Fax. (02) 798-8022

Malaysia 3 Jalan SS15/2A SUBANG, 47500 PETALING JAYA,
Tel. (03) 73 45 511, Fax. (03) 73 45 494

Mexico Paseo Triunfo de la Republica, No. 215 Local 5, Cd Juarez
CHI HUA HUA 32340, Tel. (16) 18-67-01/02

Netherlands Postbus 90050, 5600 PB EINDHOVEN,
Tel. (040) 78 37 49, Fax. (040) 78 83 99

New Zealand 2 Wagener Place, C.P.O. Box 1041, AUCKLAND,
Tel. (09) 894-160, Fax. (09) 897-811

Norway Box 1, Manglerud 0612, OSLO,
Tel. (02) 74 10 10

Pakistan Philips Markaz, M.A. Jinnah Rd., KARACHI-3,
Tel. (021) 72 57 72

Peru Carretera Central 6.500, LIMA 3, Apartado 5612,
Tel. 51-14-35 00 59

Philippines PHILIPS SEMICONDUCTORS PHILIPPINES Inc,
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Metro MANILA, Tel. (63-2) 810-0161, Fax. (63-2) 817 3474

Portugal Av. Eng. Duarte Pacheco 6, 1009 LISBOA Codex,
Tel. (019) 68 31 21, Fax. (019) 658 013

Singapore Lorong 1, Toa Payoh, SINGAPORE 1231,
Tel. 35 02 000, Fax. 25 16 500

South Africa 195-215 Main Road, JOHANNESBURG 2000,
P.O. Box 7430, Tel. (011) 889 3911, Fax. (011) 889 3191

Spain Balmes 22, 08007 BARCELONA,
Tel. (03) 301 63 12, Fax. (03) 301 42 43

Sweden Tegeluddsvägen 1, S-11584 STOCKHOLM,
Tel. (0) 8-78 21 000, Fax. (0) 8-66 03 201

Switzerland Allmendstrasse 140-142, CH-8027 ZÜRICH,
Tel. (01) 488 22 11, Fax. (01) 482 85 95

Taiwan 581 Min Sheng East Road, P.O. Box 22978, TAIPEI 10446,
Tel. 886-2-509 76 66, Fax. 886 2 500 58 99

Thailand 283 Silom Road, P.O. Box 961, BANGKOK,
Tel. (02) 233-6330-9

Turkey Talatpasa Cad. No. 5, 80640 LEVENT/ISTANBUL,
Tel. (01) 179 27 70, Fax. (01) 169 30 94

United Kingdom Philips Semiconductors Limited, P.O. Box 65,
Philips House, Torrington Place, LONDON, WC1E 7HD,
Tel. (071) 436 4144, Fax. (071) 323 0342

United States INTEGRATED CIRCUITS, 811 East Arques Avenue,
SUNNYVALE, CA 94088-3409, Tel. (800) 227-1817,
Fax. (408) 991-3581
DISCRETE SEMICONDUCTORS, 2001 West Blue Heron Blvd.,
P.O. Box 10330, RIVIERA BEACH, FLORIDA 33404,
Tel. (407) 881-3200, Fax. (407) 881-3300

Uruguay Coronel Mora 433, MONTEVIDEO,
Tel. (02) 70-40 44

Venezuela Calle 6, Ed. Las Tres Jotas, CARACAS, 1074A,
App. Post. 78117, Tel. (02) 241 75 09

Zimbabwe 62 Mutare Road, HARARE, P.O. Box 994,
Tel. 47211

For all other countries apply to: Philips Semiconductors,
International Marketing and Sales, Building BAF-1,
P.O. Box 218, 5600 MD EINDHOVEN, The Netherlands,
Telex 35000 phtcnl, Fax. +31-40-724825

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